



Frequently Asked Questions  
**Leander-Round Rock  
138-kV Transmission Line Project**  
Williamson County

January 2016

**Q. What is the Leander-Round Rock 138-kV Transmission Line Project?**

- A. The Leander-Round Rock project is designed to bring much-needed transmission infrastructure and electric reliability to a fast-growing area of Williamson County. The project consists of constructing two new substations (Substation 1 and Substation 2) and a new 138-kilovolt (kV) transmission line connecting the new substations to the existing electric grid at the Leander and Round Rock substations.

Substation 1 will be in the general area near the intersection of Parmer Lane/Ronald Reagan Boulevard and FM 1431. Substation 2 will be in the general area near the intersection of Ronald Reagan Boulevard and Crystal Falls Parkway. Substation 1 will directly connect to Substation 2 and the Round Rock Substation, while Substation 2 will directly connect to Substation 1 and the Leander Substation. If approved, the transmission line will be about 10 to 20 miles long, depending on the route ultimately selected by the Public Utility Commission of Texas (PUC).

**Q. Why is the new 138-kV transmission line needed?**

- A. The area of Williamson County north of Austin and between Interstate 35 and RM 620 is one of the fastest-growing areas in the state. The growth has significantly increased electric demand, and additional electric infrastructure is required to maintain safe and reliable electric service to this area. The electric load for the existing Pedernales Electric Cooperative (PEC) load-serving substations in the area is expected to increase 59 percent by 2022. The transmission line is needed to connect Substation 1 and Substation 2 to existing transmission sources.

**Q. What is the proposed Substation 1 and why is it needed?**

- A. Substation 1 (previously referred to as Parmer Substation) is a proposed load-serving substation needed by 2019 to support electric load growth and to provide reliable electric service in PEC's service area. LCRA TSC will acquire land and will construct, own and maintain the substation.

**Q. What is the proposed Substation 2 and why is it needed?**

- A. The proposed Substation 2 (previously referred to as Hero Way Substation) is a load-serving substation needed by 2020 to support electric load growth and to provide reliable electric service in PEC's service area. LCRA TSC will acquire land to construct, own and maintain the substation.

**Q. Where will the new substations and transmission line be located?**

- A. The exact location of these facilities has not been determined. LCRA TSC contracted with Power Engineers, an environmental and engineering firm, to conduct a routing study to identify several alternative sites for the new substations and several alternative transmission line routes. The lines will connect the existing PEC-owned Leander Substation and the existing Oncor-owned Round Rock Substation to the proposed Substation 1 and Substation 2 sites. LCRA TSC will provide the PUC with several potential substation locations and transmission line routes for consideration. The PUC will decide the route for any new transmission line it approves.

**Q. How does LCRA TSC identify and consider routes for the transmission line?**

- A. LCRA TSC and its routing consultant, Power Engineers, developed a study area that includes the end points of the transmission line – the existing Leander and Round Rock substations – as well as the siting areas for the two proposed new substations.

LCRA TSC gathered data, maps, aerial photos and input from local officials and federal and state agencies. LCRA staff also conducted field reconnaissance from public access points like roads and highways. Using this information, LCRA TSC identified environmental and land use constraints such as subdivisions, parks and known cultural resource sites within the study area. Then, staff identified preliminary alternate sites for the new substations and several preliminary route segments, looking to avoid these constraints as much as possible.

LCRA and its consultant then held open houses to present the preliminary route segments and substation sites to the community. Although several alternate route segments and substation sites were shown at the open houses, only one Substation 1 site, one Substation 2 site, and one transmission line route will be chosen for the project.

Route segments and alternate substation sites may be modified, eliminated or added during the process. Ultimately, the routes are evaluated using factors including public input, human/natural/cultural resource impacts, engineering, construction, operation and maintenance issues and cost. The process will identify several alternative routes connecting the project end points. The routes are included in LCRA TSC's Certificate of Convenience and Necessity (CCN) application to the PUC. The PUC will make the final decision whether to approve the application, and will select the transmission line route and substation sites to build.

**Q. What is ERCOT and how is it involved in this project?**

- A. The Electric Reliability Council of Texas (ERCOT) is a nonprofit organization created by the Texas Legislature that is responsible for keeping electric power flowing to about 24 million Texans, representing 90 percent of the state's electric usage over about 75 percent of the state's land area. As the electric grid operator, ERCOT is charged with, among other tasks, transmission planning and system reliability. Each transmission utility that owns and operates facilities within ERCOT, such as LCRA Transmission Services Corporation, operates its system in close coordination with ERCOT's directives.

In December 2013, LCRA TSC submitted the proposed project to ERCOT for review. The LCRA TSC submittal described the need for the project and the electric system improvements that had been considered. ERCOT transmission planning staff conducted an independent review of the project, including the assessment of 13 possible project alternatives and associated endpoint possibilities. The results of the ERCOT independent review were then presented to LCRA TSC, the ERCOT Regional Planning Group (RPG) and the ERCOT Technical Advisory Committee (TAC). The ERCOT RPG and TAC include a wide spectrum of representatives (or stakeholders) involved in the electric market, including retail electric providers, generation companies, consumers, transmission and distribution utilities, and PUC staff.

Following a unanimous approval by the ERCOT TAC, ERCOT staff presented its findings to the ERCOT Board of Directors for review. The ERCOT Board considered all of the ERCOT staff findings and, in June 2014, unanimously endorsed the project as the best alternative to address the needs of the utility grid. The ERCOT Board recommended LCRA TSC construct the proposed transmission line using double-circuit capable structures from the existing Leander Substation to the existing Round Rock Substation to connect Substation 1. Subsequently, due to the significant load growth in the area, the decision was made to also construct and interconnect Substation 2 to the project in the general area near Ronald Reagan Boulevard and Crystal Falls Parkway.

ERCOT did not “approve” the proposed project. The ERCOT Board recommended the project be constructed by LCRA TSC. The PUC has the sole authority to determine if the proposed project is needed. Thus, even though ERCOT has recommended construction of the project, the PUC must approve the project prior to LCRA TSC building it.

**Q. Who determines when and where new lines are needed?**

- A. The Texas Legislature has given the PUC the sole authority to decide if new transmission lines proposed by regulated entities, such as LCRA TSC, are needed. If the PUC determines that a transmission line is needed, it will approve a specified route for the new transmission line based on a proposed number of geographically diverse alternative routes presented by the transmission utility (in this case LCRA TSC).

**Q. What is the difference between ERCOT and the PUC in considering transmission line projects?**

- A. As it relates to new transmission lines, ERCOT is responsible for evaluating transmission system needs and recommending a proposed project after evaluation of potential alternatives. Other than the potential electrical endpoint connections, ERCOT does not consider or evaluate potential alternative routing for recommended projects. Following the ERCOT evaluation and recommendation, the utility designated to construct the project applies to the PUC for approval. The PUC independently considers the project and determines if the project is needed. If the PUC finds that a project is needed, it will select a route for the project based on a geographically diverse set of potential routes presented by the applicant utility.

**Q. What factors will the PUC consider in evaluating the need for the project?**

- A. Under its process, the PUC considers many factors in reviewing the need for the project, including:
- The ERCOT recommendation resulting from its independent review.
  - The ERCOT endorsement letter.
  - The project alternatives considered.
  - LCRA TSC’s transmission line routing analysis.
  - Input from affected landowners.
  - The adequacy of LCRA TSC’s transmission line certification application.
  - The recommendation from an administrative law judge (for a contested project).
  - Estimated cost.

**Q. What time period is considered in planning for this project? How long will it serve the needs of the area?**

- A. The planning horizon for this project included expected demand through the year 2022 to evaluate the long-term needs of the area. This study horizon extended three years beyond the typical five-year planning timeline for transmission project planning purposes in ERCOT. The proposed project is planned with a capacity of 446 megavolt amperes (MVA) and an ultimate capability of up to 892 MVA, with the addition of the second circuit. LCRA TSC's proposed project consists of a single circuit (double circuit capable) transmission line per the ERCOT-recommended project scope. To put this capacity amount into perspective, it is equivalent to the peak electric load requirements of about 179,000 homes. This ultimate capacity is sufficient to serve the projected electric load growth of this rapidly growing area for many years.

**Q. Why were the existing Round Rock and Leander substations chosen as endpoints?**

- A. The endpoints for the proposed transmission line were selected because:
- 1) As ERCOT noted in its independent assessment, these endpoints most cost effectively meet all of the reliability criteria when compared to the other 12 alternatives.
  - 2) They are existing substations. Expansion of an existing site minimizes the land requirements and impacts for new transmission lines (new substation property) when compared to a new site.
  - 3) They are located within reasonable proximity to where the new substations are required.
  - 4) They provide a constructible and operable point of interconnection to the existing electric grid.
  - 5) They support grid reliability by diversifying the source to the new substations (one from the east and one from the west).
  - 6) Other endpoint combinations considered by both LCRA TSC and ERCOT in its independent review were determined to be less-appropriate alternatives because they did not provide the systemwide and local area benefits in as cost-effective a manner.

**Q. Were alternative transmission line routes taken into consideration when the endpoints for the project were considered by ERCOT?**

- A. No, ERCOT does not consider routing alternatives as a factor in its independent review process, and as such, this issue was not addressed for the proposed project by ERCOT. However, the ERCOT independent review included a sensitivity study of the performance of options that could benefit from being placed in common right-of-way or on common structures with existing lines. The results of this sensitivity study showed that alternative transmission line routes for the proposed project could include placing the project on structures common to the existing transmission circuit between Round Rock and Chief Brady. The broad range of routing alternatives, including those not having a direct impact on transmission system performance, are addressed during the PUC's line certification process.

**Q. Did LCRA TSC or ERCOT rank the alternative project endpoints?**

- A. No. In total, 13 different project alternatives, including 13 potential endpoint combinations, were evaluated. Other than to identify the proposed project as the most effective solution, the other project alternatives were not ranked. ERCOT concluded the proposed project cost-effectively met all of the reliability criteria.

**Q. Has anyone considered regional projects or improvements such as adding 345-kV circuits west of the study area?**

- A. Yes, building lines with higher voltage levels (345-kV) has been explored as a potential solution to mitigate anticipated electric system constraints at the regional level. More specifically, connections from the west into Williamson County have been explored at ERCOT. However, a regional solution such as that would not effectively address the localized issues that the proposed project will solve.

**Q. Did LCRA TSC or ERCOT review regional solutions and/or transmission system improvements beyond the immediate area to meet the project need?**

- A. Because the need for the project is to serve two new substations to provide local reliable electric service, large-scale regional transmission system projects (e.g., bulk 345-kV transmission lines) were not reasonable alternatives. However, consideration was given to the impact of the proposed project on other nearby utilities (i.e., Austin Energy and Oncor) south and east of the study area.

**Q. How will this project improve electric service for customers in the study area?**

- A. The project will greatly improve the reliability of electric service to all end-use customers (including residential, commercial and industrial end users). It will allow for continued economic development and growth for the communities in the area including northwest Austin, Cedar Park, Leander and Round Rock as well as unincorporated portions of Williamson County. The proposed project will provide long-term adequate and reliable electric service as well as continued efficient restoration capabilities during emergencies. Furthermore, the broader area will benefit from an additional transmission source to support the growth. Electric system reliability will be improved to the Leander and Round Rock substations because an additional 138-kV connection is provided.

**Q. What will the transmission line structures look like?**

- A. LCRA TSC anticipates recommending to the PUC that the project be constructed on monopoles, either steel or concrete, for most areas of the project. In preparing its application to the PUC, LCRA TSC has considered various structure types for the project, including steel or concrete monopoles, steel or concrete H-frames and steel lattice structures. Right of way, engineering, public input and cost constraints were used to evaluate possible structure types. Typical transmission structures supporting similar 138-kV lines are 80 to 140 feet above the ground. Typical span lengths between structures range from 600 to 1,000 feet. Although LCRA TSC will likely recommend use of single pole structures for the project, the PUC will ultimately determine the structure type(s) that will be used. Diagrams and photos of the typical transmission line structures are available on the project website, [lcra.org/lrr](http://lcra.org/lrr). The application that LCRA TSC files at the PUC for the project also will include structure information.

**Q. Where would LCRA TSC recommend the use of structures other than poles for the project?**

- A. Some route segments being studied, including Segments I3 and G3, would require rebuilding an existing LCRA TSC electric transmission line within an existing easement. The rebuilding or use of the existing transmission line right-of-way requires that the structures be capable of holding three electric circuits, the existing circuit and the two new circuits for this project. Therefore, these segments would require the use of H-frame structures capable of carrying three circuits, as opposed to monopoles carrying only two circuits. Pole and H-frame structure photos and drawings are available on the project website, [lcra.org/lrr](http://lcra.org/lrr).

**Q. Now that the open houses are completed, what are the next steps for this project?**

A. LCRA TSC and its routing consultant are evaluating all public comments and conducting additional engineering and environmental analysis of the options. Some of the preliminary route segments and substation locations may be eliminated or modified. Others may be added based on public input and additional analysis. Ultimately, a set of primary alternative routes made up of various segments and alternate substation locations will be identified and evaluated in detail. The consultant will prepare a project Environmental Assessment and Alternative Route Analysis report (called an EA or routing study) for LCRA TSC to review. LCRA TSC then will prepare a Certificate of Convenience and Necessity (CCN) application for submittal to the PUC. Prior to submitting the CCN application to the PUC, LCRA TSC will request a docket number for the project.

**Q. When will LCRA TSC submit the CCN application to the PUC?**

A. LCRA TSC expects to file its application with the PUC in late spring 2016.

**Q. Will LCRA TSC propose a preferred route for the project?**

A. No. LCRA TSC will not identify a “preferred route” or a “recommended route” for the proposed project. However, LCRA TSC is required to identify in the CCN application the “route the applicant believes best addresses the requirements of the Public Utility Regulatory Act and PUC Substantive Rules.” Accordingly, LCRA TSC will identify in its application a route in response to this requirement, but does not intend for such listing to be construed as a preferred route or a recommended route. LCRA TSC will include many geographically diverse routes in its application – all of which it believes will meet the needs of the project. If it determines the project is needed, the PUC will approve any route included in the application or any new route that could be created using the noticed segments included in the CCN application in a different configuration or combination based on its determination of which route is the best route for the project.

**Q. Why is LCRA TSC considering route segments near residential areas, parkland and/or creeks?**

A. LCRA TSC is required by the PUC rules to identify a number of geographically diverse possible alternative routes, including route options that use or parallel existing compatible rights-of-way like streets, roads, railroads and routes that parallel property lines on LCRA TSC’s transmission projects to the extent it is possible and feasible. Ultimately, LCRA TSC will submit multiple alternative routes that comply with the routing factors established by the Legislature and the PUC. Those factors include cost, environmental integrity (e.g., wildlife and endangered species), recreational and park areas, historical and aesthetic values, community values, habitable structures, cultural resources, property lines, and compatible rights-of-way. The PUC will evaluate the possible routes proposed and select the route where the transmission line will be built.

**Q. How will I know when LCRA TSC files its CCN application at the PUC?**

A. Upon submitting its application with the PUC, LCRA TSC will mail letters to all landowners whose land is crossed by a potential route or who own a habitable structure within at least 300 feet of a proposed route. The notice will include information about how those property owners can participate in the proceeding. Public notifications regarding the application filing also will be published in area newspapers. LCRA TSC also will update the project website, [lcra.org/lrr](http://lcra.org/lrr), and will send an email to members of the public who request they be notified when the application is filed. Email [lcratsc@lcra.org](mailto:lcratsc@lcra.org) if you would like to be added to the email list.

**Q. What is PUC Docket Number 45364?**

- A. On Nov. 19, 2015, the PUC staff opened Docket No. 45364 at the PUC to receive comments on the proposed project. The docket will be a repository for comments filed at the PUC before LCRA TSC files its application, which is expected in late spring 2016. When LCRA TSC files its application, comments filed in Docket No. 45364 will be moved to the new docket that will be opened for the filing of LCRA TSC's application.

**Q. What happens once the PUC approves the project?**

- A. LCRA TSC will conduct land, environmental and cultural resources surveys to prepare the necessary plans and specifications to construct the transmission line. LCRA TSC will prepare the right of way and substation sites for construction once real estate negotiations and acquisition of the necessary right of way or construction rights is complete. After the right of way is prepared, construction equipment and workers will enter the right of way to install new structures and conductors. LCRA TSC will begin clearing, grading and constructing the two new substations after it purchases the required land from the landowners.

**Q. Has LCRA TSC started work in the study area such as professional land surveying, soil boring, sampling, or marking of vegetation or trees for removal?**

- A. No. LCRA TSC has not conducted any professional surveys, soil borings, or any markings on vegetation along any of the potential route segments. LCRA TSC has spent many hours in the study area to evaluate the study area and potential route segments, but these activities were limited to driving and/or walking the publicly accessible roads and rights-of-way and in no way included construction or professional surveying, testing or marking. These activities will not occur until after the PUC approves a route for the project. If marking or flagging is present at any of these locations, they are the work of other entities for other purposes.

**Q. How does electricity get to homes?**

- A. To meet consumers' electricity needs, electrical power first travels from generating plants connected to the ERCOT system through a network of high-voltage transmission lines and voltage transformation equipment connected at voltage levels including 345 kV, 138 kV and 69 kV. The voltage is then reduced or "stepped down" to a distribution-level voltage through a transformer at a substation. The voltage step down is typically to 13 kV or 25 kV. The electricity is then distributed out of the substation along these lower voltage distribution lines, ultimately supplying the electrical power to end use consumers through one last level of voltage transformation near homes and businesses.

**Q. How are PEC and Oncor involved with this project?**

- A. PEC and Oncor purchase electricity from electric suppliers in the ERCOT region. The electricity is transmitted over transmission systems owned and maintained by LCRA TSC and other transmission service providers. PEC and Oncor then resell and distribute the electricity to their retail customers. Also, PEC owns the Leander Substation, and Oncor owns the Round Rock Substation. PEC and Oncor customers and their communities will benefit directly from this project.

In addition, PEC will construct and own the lower voltage distribution lines out of the new substations to supply the area's electricity once the substations are built.

**Q. How will I be affected if the route crosses my land?**

A. Once the PUC selects a route, LCRA TSC will work with each property owner to purchase an easement to construct, operate and maintain the new electric transmission line. An easement gives a utility the right to use privately owned land for a specific purpose. The landowner retains ownership of the property. The easement is described in a legal document subsequently recorded in the county deed records and available for public inspection. Normal agricultural and recreational activities including farming, ranching, hunting and hiking may take place within the easement area.

**Q. What is the process for defining or describing an easement?**

A. LCRA TSC will contact affected property owners after the PUC approves the transmission line route. Landowners are notified of the need to conduct surveys on their property. Crews conduct a land survey to establish easement boundaries. Environmental and cultural resources surveys are conducted at the same time. A registered professional land surveyor defines and describes the easement area. This survey, referred to as a "metes and bounds" survey, is a description of the exact measurements of the land needed for the facilities.

**Q. How much does LCRA TSC pay for an easement?**

A. LCRA TSC pays fair market value for transmission line easements and supplemental easements. A copy of the fair market value report is provided to a property owner at the time an offer is made to purchase the easement.

**Q. What is eminent domain?**

A. Eminent domain is the right granted to certain entities, such as utilities and governmental bodies, to acquire property for public use, as long as the property owner is paid just compensation. The power of eminent domain may be used for projects such as schools, parks, roads, highways, fire and police stations, public buildings and utilities. As a public utility, LCRA TSC has the right to exercise eminent domain. Landowners will be provided with a landowner bill of rights, which includes detailed information on eminent domain as part of the acquisition process. LCRA TSC is obligated to negotiate in good faith with property owners for the purchase of the property or easement rights they need before invoking the authority of eminent domain.

**Q. How wide is the easement for the transmission line?**

A. Easements for the proposed 138-kV transmission structures for this project typically range between 80 and 130 feet wide, or about 40 to 65 feet from the centerline of the route to the edge of the easement. The exact width of the easement will depend on the specific location. In some locations, the easement may be as narrow as 60 feet wide.

**Q. Will LCRA TSC clear the entire easement area?**

A. LCRA TSC will clear the work zone along the easement. The work zone is typically a portion of the entire easement and typically ranges from 30- to 60-feet wide. Additional clearing less than or equal to the easement width could be required to allow for conductor (wire) sag and swing due to anticipated wind conditions. Where possible, LCRA TSC minimizes clearing in environmentally sensitive areas.



**Q. Does LCRA TSC pay property taxes on transmission and substation facilities?**

A. Yes. LCRA TSC pays local property taxes on the transmission facilities, land and land rights it owns. LCRA TSC has paid about \$3.5 million in property taxes to school districts and other local jurisdictions in Williamson County since its creation in 2002. LCRA TSC also pays state and local sales and use taxes for goods and services defined as taxable by state law.

**Q. What about electric and magnetic fields?**

A. Electric and magnetic fields (EMF) are found everywhere, especially where electricity is used, including household appliances (such as hair dryers, computers and televisions), electrical equipment, communications equipment and power lines. Some people have raised concerns in the past about potential health effects from EMF. Extensive scientific research has established no direct link between exposure to power lines and adverse health effects. Neither the state nor federal government has established any health standards relating to EMF. For more information, visit the [Electric and Magnetic Field section](#) on LCRA's website at <http://bit.ly/electricmagneticfield>.

**Q. When will this 138-kV transmission line and new substations be in operation?**

A. If approved by the PUC, the new transmission line and Substation 1 are scheduled to be operational in 2019. Substation 2 is scheduled to be operational in 2020.

**Q. What is the Lower Colorado River Authority (LCRA)?**

A. LCRA was created by the Texas Legislature in 1934. The organization neither levies taxes nor receives state appropriations. It operates solely on utility revenues and fees generated from supplying energy, water and community services. LCRA supplies cost-effective electricity for Central Texas, manages water supplies and floods in the lower Colorado River basin, provides public parks and supports community development in 58 Texas counties.

**Q. What is LCRA Transmission Services Corporation (LCRA TSC)?**

A. Senate Bill (SB) 7, approved by the Texas Legislature in 1999, restructured the state's electric industry and enabled LCRA to provide transmission services throughout Texas. Provisions of SB 7 required utilities to separate electric generation and transmission businesses. As a result, LCRA created LCRA Transmission Services Corporation (LCRA TSC) in 2001 to meet these requirements. As of Jan. 1, 2002, all of LCRA's transmission assets were transferred to this nonprofit corporation. LCRA TSC owns or operates more than 5,100 miles of transmission lines, more than 380 substations and a System Operations Control Center. LCRA staff operates and maintains those facilities for LCRA TSC, which provides wholesale transmission services to customers in South, West and Central Texas.

For more information about the Leander-Round Rock project, visit [lcra.org/lrr](http://lcra.org/lrr) or contact:

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