

**SOAH DOCKET NO. 473-16-4342
PUC DOCKET NO. 45866**

**APPLICATION OF LCRA § BEFORE THE STATE OFFICE
TRANSMISSION SERVICES §
CORPORATION TO AMEND ITS §
CERTIFICATE OF CONVENIENCE AND § OF
NECESSITY FOR THE PROPOSED 138- §
KV TRANSMISSION LINE PROJECT IN §
WILLIAMSON COUNTY, TEXAS § ADMINISTRATIVE HEARINGS**

REBUTTAL TESTIMONY

OF

SERGIO GARZA, P.E.

ON BEHALF OF

**APPLICANT
LCRA TRANSMISSION SERVICES CORPORATION**

October 24, 2016

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I. INTRODUCTION

1
2 **Q. PLEASE STATE YOUR NAME AND OCCUPATION.**

3 A. My name is Sergio Garza. I am an electrical engineer employed by the Lower Colorado
4 River Authority (LCRA) as Vice President of Transmission Design and Protection.

5 **Q. ARE YOU THE SAME SERGIO GARZA WHO PROVIDED DIRECT**
6 **TESTIMONY IN THIS DOCKET (NO. 45866) ON BEHALF OF LCRA TSC?**

7 A. Yes, I am.

8 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY FILED BY AND ON**
9 **BEHALF OF INTERVENORS AND THE DIRECT TESTIMONY FILED BY**
10 **PUBLIC UTILITY COMMISSION OF TEXAS STAFF?**

11 A. Yes, I have.

12 style="text-align:center">**II. PURPOSE OF REBUTTAL TESTIMONY**

13 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

14 A. The purpose of my rebuttal testimony is to address:

- 15 1. General concerns, questions, and issues raised on the planning process, the Project's
16 need, the substation siting areas, the transmission line and associated end points, and
17 substation details; and
18 2. Statements made by Mr. Harold Hughes in his Direct Testimony with respect to
19 substation siting.

20 To the extent that other Intervenors raised other general concerns, questions, or issues
21 about the substations or the purpose and need for the LCRA TSC Project, they are
22 addressed by the following discussion as well.

1 **Q. WAS YOUR REBUTTAL TESTIMONY AND THE INFORMATION YOU ARE**
2 **IDENTIFIED AS SPONSORING PREPARED BY YOU OR BY**
3 **KNOWLEDGEABLE PERSONS UPON WHOSE EXPERTISE, JUDGMENT**
4 **AND OPINIONS YOU RELY IN PERFORMING YOUR DUTIES?**

5 A. Yes it was.

6 **Q. IS THE INFORMATION CONTAINED IN YOUR REBUTTAL TESTIMONY**
7 **AND THE INFORMATION YOU ARE IDENTIFIED AS SPONSORING**
8 **TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE AND**
9 **BELIEF?**

10 A. Yes it is.

11 **III. GENERAL SUMMARY OF INTERVENOR CONCERNS, QUESTIONS OR**
12 **ISSUES RELATED TO THE PURPOSE AND NEED FOR THE PROJECT**

13 **Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF THE INTERVENORS’**
14 **CONCERNS, QUESTIONS, OR ISSUES RELATED TO THE PURPOSE AND**
15 **NEED FOR THE PROJECT AS EXPRESSED IN THEIR TESTIMONY.**

16 A. Based on my review of the Intervenors’ direct testimony, I believe that the basic factors
17 driving the need for this project were well understood – that the existing electric system
18 infrastructure is not adequate to meet the demand for electric power in the area. In
19 general, in their filed direct testimony the Intervenors did not raise concerns, questions, or
20 issues directly related to the overall purpose and need as described in my Direct
21 Testimony, or in the CCN Application for the LCRA TSC Project that is the subject of
22 this proceeding. In fact, several of the Intervenors filed direct testimony with information
23 supporting the area electric load growth statements that LCRA TSC describes in the CCN
24 Application and in my Direct Testimony. This is consistent with associated activity
25 during the discovery phase, as there were no requests for information asking for
26 additional data to justify the Project’s purpose and need.

1 **Q. WAS THERE ANY ASPECT OF THE ELECTRIC SYSTEM PLANNING**
2 **PROCESS THAT WAS NOT UNDERSTOOD OR FOR WHICH CONCERNS**
3 **WERE EXPRESSED IN THE INTERVENORS' TESTIMONY OR STATEMENT**
4 **OF POSITION?**

5 A. Yes, there appear to be some. Based on my review of the Intervenors' testimonies and
6 statements of positions, I understand that several of the Intervenors inquired about
7 whether an independent third party evaluated the need for the LCRA TSC Project in this
8 proceeding. There were also some concerns raised by Intervenors regarding constructing
9 a substation in an urban area that includes schools and parks. Other interveners raised
10 concerns about utilizing open areas for siting the transmission line and associated
11 substations.

12 **Q. HAVE ANY THIRD PARTIES EXAMINED THE PURPOSE AND NEED FOR**
13 **THE PROJECT?**

14 A. Yes, they have. The Project was reviewed and considered by two different third parties,
15 including at multiple levels by the Electric Reliability Council of Texas (ERCOT).

16 First, the need to construct the two substations associated with the Project was
17 identified in 2012 by an external utility engineering consultant through a study
18 commissioned by Pedernales Electric Cooperative (PEC). The consultant's study was
19 reviewed by PEC engineers and later validated using a different approach by LCRA TSC
20 engineers. Both the consultant and LCRA TSC arrived at the same conclusion that there
21 is a critical need for electric system improvements and that the Project addresses the
22 problems found.

23 Second, after LCRA TSC developed the transmission portion of the study,
24 ERCOT reviewed LCRA TSC's approach, alternatives considered, findings, and
25 conclusions. ERCOT is the independent organization that is entrusted, through Section
26 39.151 of the Public Utility Regulatory Act, with ensuring:

- 27 1. access to the transmission and distribution systems for all buyers and sellers of
28 electricity on nondiscriminatory terms; and
- 29 2. the reliability and adequacy of the regional electrical network.

30 As I discussed at length in my Direct Testimony, the Project underwent significant
31 review by stakeholders participating in the ERCOT Regional Planning Group as well as a

1 thorough independent assessment by the ERCOT staff. The Project was subsequently
2 reviewed and endorsed by the ERCOT Technical Advisory Committee and the ERCOT
3 Board of Directors.

4 **Q. DO YOU HAVE ANY CONCERNS WITH LCRA TSC CONSTRUCTING AND**
5 **OPERATING SUBSTATION FACILITIES WITHIN THE AREAS IDENTIFIED**
6 **FOR THIS PROJECT?**

7 A. No, I do not. LCRA TSC has safely operated electrical substations for decades in both
8 rural and urban environments. There are numerous locations throughout the LCRA TSC
9 system where substations are located next to parks, churches, schools, roads, and other
10 residential and commercial developments. Ms. Meaux addresses this Intervenor concern
11 further in her rebuttal testimony.

12 **IV. REBUTTAL TO THE DIRECT TESTIMONY OF MR. HAROLD HUGHES**

13 **Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF MR. HUGHES’**
14 **TESTIMONY AS IT RELATES TO SUBSTATION SITING AND**
15 **INTERCONNECTION TO THE ROUND ROCK SUBSTATION.**

16 A. Based on my review and understanding of Mr. Hughes’ Direct Testimony, he makes
17 three primary conclusions regarding substation matters that I will address in this rebuttal
18 testimony. Mr. Powell addresses some of Mr. Hughes’ conclusions in his rebuttal
19 testimony as well.

20 First, Mr. Hughes states that there are limited opportunities for utilizing the
21 alternative substation sites LCRA TSC presented in association with its Project. Mr.
22 Hughes believes that 14 of the 16 alternative substation sites offer no observable
23 locational benefits and that simply because LCRA TSC has already purchased substation
24 sites 1-7 and 2-6, a route using those substations should be approved rather than routes
25 using any of the other proposed substation sites that LCRA TSC identified. Mr. Hughes
26 states that – “Many of the sites are very close together and offer no significant geographic
27 difference from adjacent substation sites.”

28 Second, Mr. Hughes also states that the two substation sites impacting his clients’
29 properties “suffer from several deficiencies.” Mr. Hughes states that there are reliability

1 concerns related to Substation Site 2-8 as well as topographic issues related to Substation
2 Site 2-4. Mr. Hughes claims that those routes that connect Substation Site 2-8 would
3 utilize common structures to go into and then out of the substation on Segment F6
4 crossing a pipeline as well as the road increasing reliability risk. In the case of Substation
5 Site 2-4, Mr. Hughes states, “building a retention pond on a steep site will require a
6 considerable amount of cutting and filling which increase cost.”

7 Third, Mr. Hughes concludes that exiting the existing Round Rock Substation to
8 the west presents a significant routing challenge. He claims that the area around the
9 Round Rock Substation is not only constrained by the habitable structures, but also by
10 Oncor’s plans for the substation. And, therefore, the routes that include Segments J4-I3-
11 G3, utilizing existing transmission line ROW, north out of the Round Rock Substation, to
12 be a much more desirable way to exit the Round Rock Substation.

13 **Q. PLEASE EXPLAIN YOUR CONCERNS WITH MR. HUGHES’ CONCLUSIONS.**

14 A. First, each of the 16 substation sites that LCRA TSC has identified in conjunction with
15 this Project are suitable locations for LCRA TSC to design, construct, and operate an
16 electric load-serving substation that effectively and efficiently meets the objective of the
17 Project. Some sites may come at a slightly higher cost and other sites will possibly have
18 slight complexities that can be mitigated through proven engineering practices. As I
19 stated in my direct testimony, all of the substation sites identified for this project will
20 meet the objective of the LCRA TSC Project and all are viable. The only exception is
21 when several of these sites are combined in such a way that one site is less than 1.5 miles
22 apart from the other. LCRA TSC understands that with an infrastructure project of this
23 magnitude, many landowners will be impacted, some directly and others indirectly. And,
24 as such, LCRA TSC has fulfilled its obligation to provide the Commission with an ample
25 number of feasible options from which to make an informed decision. Mr. Powell further
26 addresses this specific conclusion made by Mr. Hughes in his rebuttal testimony.

27 Second, regarding Mr. Hughes’ reliability concerns associated with Substation
28 Site 2-8, it is a common practice for substations to be designed with a single set of
29 structures connecting the incoming and outgoing circuits of a double circuit line as the
30 line enters and leaves the substation within close proximity to the substation. Because the
31 length of the line that will utilize a common set of structures for the incoming and

1 outgoing circuits as it connects Substation Site 2-8 is less than a half-mile, it is not a
2 reliability concern to LCRA TSC, the operator of the substation. Presently, LCRA TSC
3 reliably operates transmission lines with over 2,400 pipeline crossings without problems.
4 Furthermore, as described in my direct testimony, the two substation siting areas were
5 delineated such that the new substations may provide back up support to adjacent
6 substations **and** vice versa. Mr. Hughes' concerns regarding the loss of service to the
7 substation due to the risk associated with the pipeline and road crossings on single
8 structures is not a significant concern to LCRA TSC. Regarding Mr. Hughes' topography
9 concerns associated with Substation Site 2-4, I disagree that those concerns should result
10 in the removal of Substation Site 2-4 from consideration in this proceeding. In fact, as
11 Mr. Hughes clarifies in his own testimony, LCRA TSC addressed the issue in identifying
12 the need for performing additional work on the property, as reflected in LCRA TSC's
13 cost estimate for that substation site. I agree with Mr. Hughes that LCRA TSC has
14 presented the Commission with the costs associated with utilization of Substation Site 2-4
15 in its application.

16 Third, regarding Mr. Hughes' concerns associated with exiting the Round Rock
17 Substation, Oncor has expressed its willingness to work with LCRA TSC in
18 accommodating the new line by relocating circuits within the existing substation
19 property. I do not have any concerns on behalf of LCRA TSC regarding exits out of the
20 existing Round Rock Substation for any proposed route that the Commission might
21 approve for this Project. Ms. Melendez addresses the routing issues associated with exits
22 from the Round Rock Substation in her rebuttal testimony.

23 V. SUMMARY AND CONCLUSION

24 **Q. PLEASE SUMMARIZE YOUR RESPONSE TO THE ISSUES, CONCERNS,**
25 **QUESTIONS, AND CONCLUSIONS OFFERED BY INTERVENORS**
26 **REGARDING THE PURPOSE AND NEED FOR THE LCRA TSC PROJECT.**

27 A. Based on my review of the Intervenors' direct testimony, the key factors driving the need
28 for this project were well understood, and the LCRA TSC Project supports the area
29 residents' present, ongoing, and planned development plans and vision for sustainable
30 economic growth of the broader local area.

1 **Q. AFTER REVIEWING THE DIRECT TESTIMONY PROVIDED BY THE**
2 **INTERVENORS IN THIS DOCKET, DO YOU STILL BELIEVE THAT LCRA**
3 **TSC'S PROPOSED PROJECT IS THE MOST COST-EFFECTIVE SOLUTION**
4 **TO ADDRESS THE STATED OBJECTIVES?**

5 A. Yes, I do.

6 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

7 A. Yes.