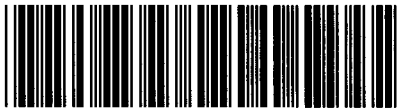

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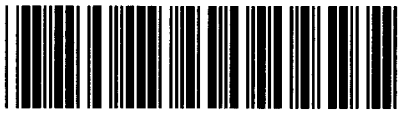

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SOAH DOCKET NO. 473-16-2983
DOCKET NO. 45601

APPLICATION OF LCRA	§	
TRANSMISSION SERVICES	§	**STATE OFFICE**
CORPORATION TO AMEND ITS	§	
CERTIFICATE OF CONVENIENCE	§	**OF**
AND NECESSITY FOR THE ZORN-	§	
MARION 345-KV TRANSMISSION	§	**ADMINISTRATIVE HEARINGS**
LINE PROJECT IN GUADALUPE	§	
COUNTY	§	

DIRECT TESTIMONY

OF

CHARLES R. KRACKAU

ON BEHALF OF THE
KRACKAU INTERVENORS

May 3, 2016

220

SOAH DOCKET NO. 473-16-2983
DOCKET NO. 45601

DIRECT TESTIMONY OF CHARLES R. KRACKAU

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SOAH DOCKET NO. 473-16-2983
DOCKET NO. 45601

DIRECT TESTIMONY OF CHARLES R. KRACKAU

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Charles R. Krackau. My business address is 8720 Barbarossa Road, New Braunfels, Texas, 78130.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of myself and my wife, Charles R. and Lori L. Krackau, and on behalf of Jerry W. Krackau, Lynnette K. Cranford (formerly Krackau), the Clarence A. Krackau Family Trust, Charles R. Krackau, Trustee, and the Estate of Lorine K. Krackau, Charles R. Krackau, Executor (collectively, the "Krackaus" or the "Krackau Intervenors").

Q. **ARE ALL OF YOU INTERVENORS IN THIS CASE?**

A. Yes, our motion to intervene in this case was filed on April 6, 2016. The motion was not the subject of any objections and we were granted full intervenor status on April 22, 2016, in SOAH Order No. 3.

Q. **HOW LONG HAVE YOU LIVED AND WORKED IN GUADALUPE COUNTY?**

A. I was born and raised in Guadalupe County. I was raised on my family's farm. After graduating from Texas A & M University with a degree in Animal Science, I returned to run our family farming operation and grain business.

Q. **HAVE YOU PREVIOUSLY TESTIFIED IN A COMMISSION PROCEEDING?**

A. Yes. I testified at SOAH in Docket No. 33978, Application of LCRA Transmission

Services Corporation to Amend Its Certificate of Convenience and Necessity for a 345-Kilovalot Double-Circuit Transmission Line in Caldwell, Guadalupe, Hays, Travis and Williamson Counties, both in the hearing on route adequacy on August 17, 2007 and at the hearing on the merits on the application in February 2008 in that docket. I also testified in the route adequacy hearing in this proceeding on April 25, 2016.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe the impact of the placement of the proposed 345-kV transmission line on me and my family in our day to day farming and ranching activities. Also, to describe the impact on this community in general.

Q. WOULD YOU PLEASE SUMMARIZE YOUR TESTIMONY?

A. If Route 10, the route identified by LCRA TSC as the route most compliant with PURA and the Commission's rules, is approved, our family will not only bear more than its fair share of the burden of this transmission line, but we will find the efficiency of our farming operations disrupted, harmed, or destroyed. While LCRA proposes to use "new" right of way for the western half of the project, it proposes to use "existing" right of way (the open position of the existing Clear Springs to Zorn 345-kV transmission line approved by the Commission in Docket No. 33978) for the eastern half of the project. That existing transmission line already crosses many tracts of the Krackaus' land. When the "new" and "existing" routes are added, the Krackaus' will be burdened with a very significant portion of the length of the line. Moreover, if Route 10 is approved, significant stretches of the line will cross over the middle of the Krackau Intervenors farm and ranch land impairing our farm and ranch operations. To mitigate the impact, I recommend in this testimony that the ALJs and the Commission approve other routes besides Route 10, particularly routes 10M, 5, 5A, 6, and 10-5H, a hybrid of Routes 10 and 5, routes that would use segments that will not cross over the middle of the Krackaus' farm land. These routes would moderate the impact on my family's farms and

farming operations while still meeting the goals of LCRA TSC.

Q. **WHAT SPECIFIC POINTS DO YOU ADDRESS IN YOUR TESTIMONY?**

A. I address the following specific points in my testimony:

- I explain that Route 10, as proposed by LCRA TSC, as well as any other routes that use segments A2-M2-J2-I2, H2-K2, O2, Q2, and Z1 would, by crossing over the middle of the Krackaus' farm land, adversely impact the Krackau Intervenors' farming operations so seriously that it would pose a serious threat to the viability of those operations and I describe how Route 10 and other proposed routes in LCRA's application would adversely impact the Krackau Intervenors' property and farming operations;
- I explain that the Krackau Intervenors' properties, which span the entire eastern border of the study area, are already burdened by the Clear Springs to Zorn transmission line approved in Docket No. 33978 and other LCRA and other utility transmission lines and that, accordingly, the Krackau Intervenors should not be again required to bear the burden of another LCRA transmission line in this proceeding;
- I explain that approval of any route other than routes that use segments C2-D2 will travel over the Krackau property as they travel from Clear Springs to the deflection point to Zorn in the northeast corner of the study area in the open position of the Clear Springs to Zorn transmission line approved in Docket No. 33978 that already crosses the Krackau property, the Krackaus will be required to bear a significant part of the line over their property even if the Krackaus are not required to bear any part of any proposed "new" routes;
- I acknowledge that LCRA routes 8, 9, 13, and 15, which all use segments K1-Y1, are unlikely prospects because they are too long, take an overly circuitous route, too costly, and affect too many habitable structures.
- I also acknowledge that any routes that use segment N1 (it does not appear the LCRA expressly proposed any route using segment N1, but LCRA noted that routes different from those it proposed could be assembled using its proposed segments) are also unlikely for the same reason.

- I describe and explain how other proposed LCRA routes (for example, Staff RFI route 10M, LCRA routes 5, 5A, and 6, Krackau hybrid route 10-5H, and LCRA routes 4 and 14) would be better options;
- I explain how Staff RFI route 10M, LCRA routes 5, 5A, and 6, Krackau hybrid route 10-5H, and LCRA routes 4 and 14, and other routes not included in LCRA's 15 proposed routes but created using LCRA proposed segments C2-D2; F2-G2; and T1-W1 and T1-X1-Y1 are better solutions for routing than route 10; and
- I conclude by recommending and requesting that the ALJs and the Commission approve Routes 10M, 5, 5A, 6, 10-5H, 4, or 14, the routes I discuss here in my testimony, for the Marion to Zorn circuit to be approved in this proceeding.

III. MATERIALS REVIEWED

Q. WHAT DID YOU REVIEW TO PREPARE YOUR TESTIMONY?

A. I reviewed the maps in the LCRA's application, specifically, Figure 4-9, LCRA's Primary Alternative Route Segment map; Figure 4-10, LCRA's map of Primary Alternative Routes; Figure 5-1, LCRA's map of Habitable Structures and other Environmental Features; Attachment 4, Maps 1-19 of 19, LCRA's maps of Directly Affected Properties, LCRA's Table 4-2, Primary Alternative Routes, showing total length in miles of LCRA's 15 Primary routes, and the route and segment information in LCRA's application, particularly route and segment lengths, in Table's 5-1 and 5-2, Land Use and Environmental Data for Primary Route Evaluations, in LCRA's Environmental Assessment.

Q. **HAVE YOU REVIEWED LCRA TSC'S ENVIRONMENTAL ASSESSMENT, TESTIMONY, AND OTHER INFORMATION ON THE PROPOSED ROUTES?**

A. Yes. I reviewed and information on LCRA's proposed routes in LCRA TSC's Environmental Assessment, witnesses' testimony, and application. I focused on the table attached to Ms. Hernandez's testimony regarding LCRA route 5A and the cost and length information in the tables in Attachment 2 to LCRA's application.

IV. PRELIMINARY ISSUES

Q. DID THE KRACKAU INTERVENORS RAISE CONCERNS ABOUT THE ADEQUACY OF LCRA'S PROPOSED ROUTES?

A. Yes. After reviewing LCRA's application and the material included in it, the Krackau Intervenors believed that LCRA failed to include three potentially shorter and more direct in its application. The Krackau Intervenors submitted a request for a hearing on route adequacy and testimony seeking a ruling on the issues. The ALJs ruled that LCRA's application was adequate at the hearing and the Krackaus decided not to appeal.

Q. DO YOU DISPUTE OR CHALLENGE LCRA TSC'S CLAIM OF NEED?

A. No. I am persuaded that LCRA's claim of need, based on LCRA's and City Public Service's study and ERCOT's consideration and approval of the project, is well founded. I am also persuaded that LCRA's explanation of the need for more capacity for the I-35 corridor and the need to provide additional reliability in anticipation of the retirement of the J.T. Deely plant have merit.

Q. DO YOU CHALLENGE LCRA'S USE OF THE EXISTING OPEN POSITION FOR THE CLEAR SPRINGS TO ZORN 345-kV LINE APPROVED IN DOCKET NO. 33978?

A. No, but there are several important points that need to be noted about LCRA's proposed use of that open position. There are several troubling aspects of LCRA's application in that regard which I think LCRA should clear up in its rebuttal testimony to ensure that the record is clear and that the affected landowners as well as the Commission are not left in the dark.

Q. WHAT IS THE FIRST POINT THAT NEEDS TO BE CONSIDERED ABOUT LCRA'S USE OF THE EXISTING OPEN POSITION FOR THE CLEAR

SPRINGS TO ZORN 345-kV LINE APPROVED IN DOCKET NO. 33978?

A. The first point is that the north-south leg of the open position for the second circuit of the 345-kV Clear Springs to Zorn line that LCRA proposes to use as part of the route for the first circuit of the line proposed in this docket travels over four of the Krackaus' properties, including tracts D2-008, I2-002, and K2-001, properties listed by LCRA as affected properties, as well as at least one tract that LCRA did not list as an affected tract, even though the open position LCRA proposes to use crosses it. Because LCRA is proposing to cross the Krackau property with the portion of the line that will be routed in the open position of the Clear Springs to Zorn line, the Krackau Intervenors and their properties are affected to a much greater extent and by a much larger portion of the line than LCRA has listed in its Application. LCRA's application only shows the Krackau properties affected by the "new" routes, it does not show the Krackau properties affected by LCRA's use of the existing open position, even though the proposed line is to be built in a combination of new and existing routes. When the Commission considers the merits and the equity of proposals to locate a portion of the new route over the Krackau properties, the Commission should consider that the Krackau properties are already affected by substantial portions of the "existing route" in that open position.

Q. WHAT IS THE NEXT POINT THAT NEEDS TO BE CONSIDERED?

A. It was not clear from LCRA's application that LCRA intended to amend the Commission's order in Docket No. 33978 to re-purpose the second circuit of the Clear Springs to Zorn 345-kV line approved in that docket (currently the open position) and to substitute for the second circuit approved in the Order in that docket the first circuit of the line sought in this docket. The Commission approved the second circuit of the Clear Springs to Zorn transmission line in Docket No. 33978 based on the record, including the evidence and argument presented in the hearing in Docket No. 33978, including evidence and argument of need for the second circuit, evidence and argument of the merits of the proposed routes for the second circuit, and evidence and argument of the impact on and of habitable structures, engineering constraints, historic and archeological features,

aesthetic and environmental impact, and other required considerations of that second circuit. Has the hearing on that second circuit in Docket No. 33978, in which the Krackaus participated, been nullified or superseded because LCRA needs to use the open position of that circuit for the first circuit of the transmission line requested in this docket? Has the Commission's order approving the second circuit in Docket No. 33978 and the proof it was based on in that docket been set aside because the second circuit now has another use? I am not convinced that the Commission's approval of the second circuit in Docket No. 33978, which was issued in a contested case hearing based on the evidence and argument submitted at the hearing in that proceeding, can be set aside without express findings, conclusions, and ordering paragraphs holding that the approval of that second circuit in Docket No. 33978 contemplated that LCRA might use the position left open for that circuit as part of a route for a circuit in a different transmission line, as LCRA is proposing in this docket. I recommend that the Commission expressly address the issue in its order in this proceeding.

Q. ARE YOU CONCERNED THAT LCRA'S APPLICATION DOES NOT NOTIFY LANDOWNERS AFFECTED BY THE FIRST CIRCUIT TO THE NORTHEAST OUTSIDE THE STUDY AREA OF THE IMPACT OF LCRA'S PROPOSED USE OF THE OPEN POSITION IN THE CLEAR SPRINGS TO ZORN TRANSMISSION LINE APPROVED IN DOCKET NO. 33978 ON THEIR PROPERTY?

A. Yes, I am concerned that LCRA's application fails to notify landowners on the open position of the Clear Springs to Zorn line approved in Docket No. 33978 between the deflection point to Zorn in the northeast corner of the study area and the Zorn substation that LCRA proposes to use the open position on their land in a manner that affects their properties. LCRA is proposing to route a substantial portion of the line in this docket over those landowners' properties but LCRA has not treated the properties crossed by that portion of the line as affected properties. LCRA has not listed the property owners of those properties as affected parties in its application nor has LCRA given those

property owners notice, even though the route for the new Marion to Zorn line crosses their properties in the second position of the existing transmission line that was approved in Docket 33978.

Q. CAN LCRA GET APPROVAL OF A NEW CIRCUIT THAT CROSSES THE PROPERTIES OF LANDOWNERS ON WHOSE PROPERTIES THE CLEAR SPRINGS TO ZORN 345-KV OPEN POSITION IS LOCATED IF LCRA DID NOT INCLUDE THOSE LANDOWNERS AS AFFECTED PARTIES OR GIVE THOSE LANDOWNERS NOTICE?

A. I am not a lawyer, but, I think there could be a problem with approval of a circuit that crosses landowners' properties where those landowners have not been included as affected parties in this docket and have never been given notice of this docket, though they were given notice of Docket No. 33978. If the notice in Docket No. 33978 is to be deemed sufficient to include the application in this docket for those land owners, the Commission should expressly make such a ruling to ensure that the notice of those landowners is not left unresolved.

Q. ARE YOU CONCERNED ABOUT THE DIFFERENCE IN THE ROUTE FOR THE FIRST AND SECOND CIRCUITS OF THE LINE REQUESTED IN THIS DOCKET?

A. Yes. I am concerned that LCRA has not proposed a single or common route for the first and second circuits requested in this docket or a termination point of any kind for the second circuit proposed in this docket. LCRA's proposal to use the open position of the Clear Springs to Zorn transmission line approved in Docket No. 33978 for the first circuit of this application and to terminate the first circuit at Marion and Zorn leaves unresolved the route for and the eastern termination point for the second circuit of the line proposed in this docket. LCRA was permitted to avoid the normal alternative route proposal process for the portion of the first circuit of the line in this case because its proposed use of the existing open circuit from the line approved in Docket No. 33978 for that segment

provided an established route for the first circuit in this case. But there is no second open position or any other previously established route for the second circuit of the line sought in this docket and LCRA did not propose any alternative routes to terminate that second circuit at Zorn. As a result, there is no route proposed for the second circuit from the eastern side of the study area to Zorn nor is there any proposed termination point for the second circuit of the line sought in this docket.

Q. DID YOU RAISE THIS IN THE ROUTE ADEQUACY HEARING?

A. Yes, however the focus of our route adequacy claim was on three segments the Krackau Intervenors believed were omitted from LCRA's filing.

Q. CAN LCRA OBTAIN APPROVAL OF A SECOND CIRCUIT THAT DOES NOT HAVE A TERMINATION POINT, ANY CERTAIN PROPOSED ROUTE FOR ITS EASTERN HALF, OR ANY ROUTE FROM THE EASTERN EDGE OF THE STUDY AREA TO ZORN OR ANY OTHER SUBSTATION?

A. I don't think so without some additional clarification or certainty admitted into the record. While LCRA could withdraw the application for the second circuit or the Commission could reject it, a better possible solution is for the Commission to adopt a route for both circuits that progresses to or near the Clear Springs substation, though not terminating in that substation, thereby approving a common route for both the first and second circuits that allows the first circuit to make its way from Marion to Clear Springs in new route and on to Zorn over the open position of the Clear Springs to Zorn 345-kV line approved in Docket No. 33978 while establishing a future termination point for the second circuit at or near the Clear Springs substation, which, from all indications is, in effect, a strategically-placed hub located among existing and planned generation resources and connections to a number of key 138-kV and 345-kV transmission lines.

V. KRACKAU PROPERTIES

Q. DO THE KRACKAU INTERVENORS HAVE PROPERTIES IN THE STUDY

AREA THAT ARE AFFECTED BY LCRA'S APPLICATION IN THIS DOCKET?

A. Yes. The Krackau Intervenors own properties located along the northern two-thirds of the eastern edge of the study area, from the northeast corner of the study area where LCRA Figure 4-10 and 5-1 show a deflection of the state "To Zorn" due south along the eastern edge of the study area to a broad area south and southeast of the Clear Springs substation. Please see the discussion and Figures 1 through 6 below.

Figure 1. General location of Krackau tracts on both sides of north-south leg of LCRA 345-kV Clear Springs to Zorn transmission line (shown as orange dashed line, center above) from deflection point labeled "to Zorn" (top center) to south of Clear Springs substation (bottom center). (Source: LCRA Figure 5-1, Page 2 of 2).

Q. HOW ARE THE AFFECTED KRACKAU PROPERTIES DISTRIBUTED AND GROUPED IN THE STUDY AREA?

A. The Krackau Intervenors' properties occur five clusters in three main groups of properties along the eastern edge of the study area. The properties are generally bounded on the east by Barbarossa Road, and, starting near the northeastern corner of the study area near the point where the existing 345–kV transmission line deflects to the north east toward the Zorn substation, are grouped from north to south to an area slightly beyond the Clear Springs substation.

Q. **PLEASE SPECIFICALLY IDENTIFY EACH OF THE AFFECTED KRACKAU TRACTS.**

A. Starting in the northeast corner of the study area near the deflection of the existing 345-kV transmission line toward the Zorn substation and the heading in LCRA Figure 4-10 "to Zorn" and moving from north to south towards the Clear Springs substation, the Krackau properties are more specifically identified in the following clusters or groups of tracts:

- the first cluster of tracts includes our "Hoffmann," "Beechie," "Mueller," "Wunderlich," "Pieper," and "Homeplace" tracts. The most northerly tract, the Hoffmann tract, is listed in LCRA's application as an affected tract and is designated tract D2-008 in the application. It includes approximately 79.92 acres. The Beechie, Mueller, Wunderlich, Pieper, and Homeplace tracts are not identified as affected tracts in LCRA's application and are left undesignated and unnumbered in the application. Our Mueller tract includes approximately 52.2930 acres. Our Pieper/Wunderlich tract includes 287.348 acres. The Pieper and Homeplace tracts, which are due south of tract D2-008 and next to each other, include the headquarters for our farming operation and include 73.2910 and 101.20 acres respectively. Our office, grain bins, barns and equipment are housed on this property. The Homeplace tract also has an irrigation well rated at 600 gallons per minute. A row irrigation system is presently used on this land when necessary. However, we have anticipated the need to improve this system to a pivot system, which would be connected to the irrigation well located on our Pieper tract to the west. At the time the pivot system

is operational, it would cover both the Pieper and the Homeplace tracts, irrigating a large portion of our farmland in this area. The new routes for the transmission line proposed in this application do not cross any of these tracts. However, segments C2-D2 of the transmission line would tie in to the vacant position of the LCRA Clear Springs to Zorn transmission line across the fence line of the northwest corner of the Krackaus' Hoffmann property. However, the Hoffmann and Pieper tracts are already burdened with the existing LCRA 345-kV Clear Springs to Zorn and Clear Springs to Hutto transmission line approved in 2008 in Docket No. 33978, which runs from north to south along the western edge of these tracts, in which LCRA proposes to route the first circuit of the transmission line requested in this docket.

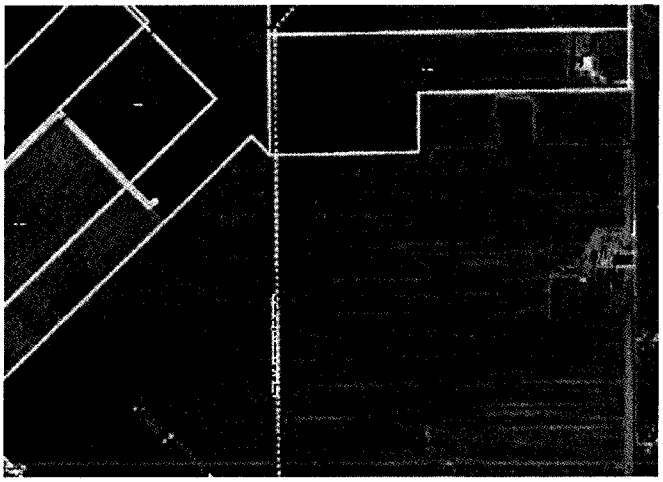


Figure 2. Krackau Hoffmann (D2-008), Beechie, Pieper, Homeplace, Mueller, Wunderlich (unnumbered) tracts (clockwise from top right to bottom right, bottom left, and center left). (Source: LCRA Attachment 4, Sheet 3 of 19).

- Moving south from the first cluster, the next group of tracts includes our "Zimmerman" "Henze," and "Nemec," tracts. The northernmost of these tracts, the Zimmerman tract, is listed as affected tract H2-001 in LCRA's application and includes approximately 131.22 acres of farmland. Moving south, our Henze tract is listed as affected tract Q2-001 in LCRA's application and includes approximately 79.4 acres of farmland. Our Nemec tract is listed as affected tract Q2-002 in LCRA's application and includes approximately 91.4 acres of farmland. All these tracts are owned by Jerry Krackau, Lynnette Krackau Cranford

and me and all are used for row crops in our farming operation. LCRA proposed segments A2-M2-J2-I2 of Route 10 would cross the Zimmerman (H2-001) and Henze (Q2-001) tracts in a northeasterly-southwesterly direction. Proposed segments H2-K2, O2, Q2, and Z1 would cross the Zimmerman, Henze, and Nemec tracts in a northwesterly-southeasterly direction. Because we farm our Zimmerman, Henze, and Nemec tracts as a single, large row-cropped tract, the manner in which these segments and routes cross through the middle of our farming operation would destroy the feasibility and efficiency of our operations and severely impair our operations, as I discuss later in this testimony. Finally, it should be noted that the Henze and Nemec tracts are already crossed by the existing LCRA 138-kV Freiheit Road to Clear Springs transmission line running from northwest to south east across the middle of these tracts.

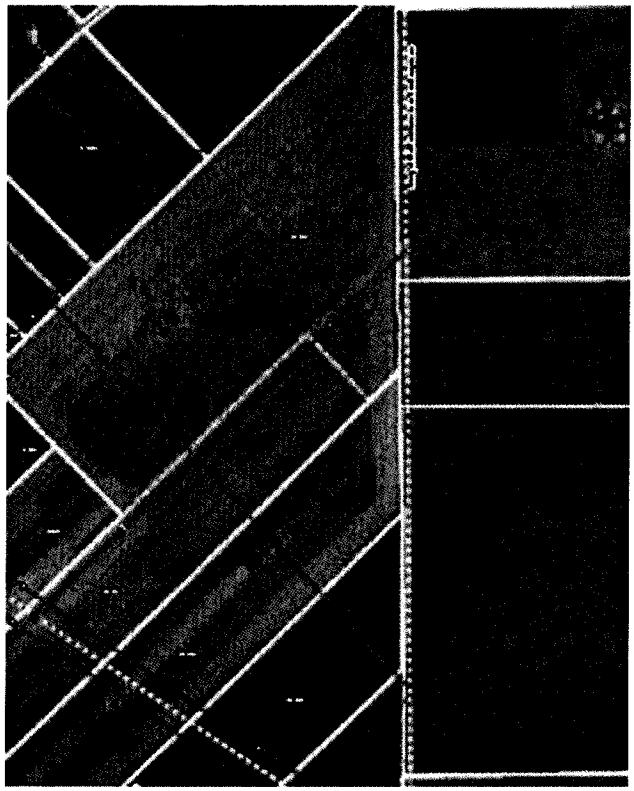


Figure 3. Krackau Zimmerman (H2-001), Henze (Q2-001), and Nemec (Q2-002) tracts (three contiguous diagonally angled tracts left center). (Source: LCRA Attachment 4, Sheet 7 of 19).

- Moving south and east, the next cluster of tracts includes our Church tract, listed as affected

tract I2-002 in LCRA's application, and our Oelkers tract, listed as affected tract K2-001 in LCRA's application. These tracts include approximately 82.75 acres and 247.40 acres respectively and are owned by the Clarence A. Krackau Family Trust and the Estate of Lorine Krackau. We use them as farmland for the farming of row crops like cotton, corn, and maize. We also plant wheat. These tracts are already burdened with one LCRA 345-kV transmission line: LCRA's Clear Springs to Zorn and Clear Springs to Hutto transmission line runs north and south along the western edges of both these tracts. Segment K2 proposed in this application would cross into the southernmost one-third of the Oelkers tract in a southeasterly direction to connect to the vacant position of the existing 345-kV transmission line.

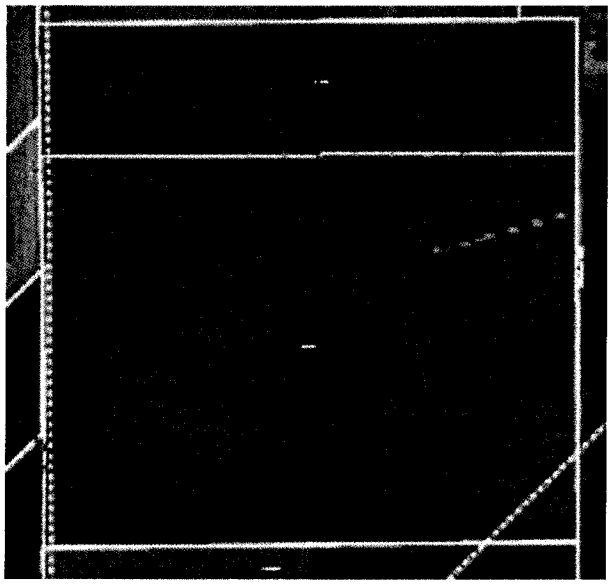


Figure 4. Krackau Church (I2-002) and Oelkers (K2-001) tracts (top center and bottom center). (Source: LCRA Attachment 4, Sheet 7 of 19).

- Moving southwest of the Oelkers tract to a location just north and of the Clear Springs Substation, is the next cluster of tracts, our "Link" tracts. These tracts are listed as affected tract Q2-004 in LCRA's application. (See LCRA Attachment 4, Map 7 of 19). They include 90.01 acres of farmland and 1.00 acre in the corner on Link Road. They are owned by Clarence and Lorine Krackau. The 1.00 acre tract in our Link tracts is also part of our

Oelkers tract, mentioned above. Proposed segments Q2 and O2 would cross the entire length of the middle of tract Q2-004 in a northwesterly-southeasterly direction. The middle of the Link tract is crossed by the existing LCRA 138-kV Freiheit Road to Clear Springs transmission line and the southeastern edge of the Link tract is crossed by the existing LCRA 345-kV Clear Springs to Zorn transmission line approved in Docket No. 33978.

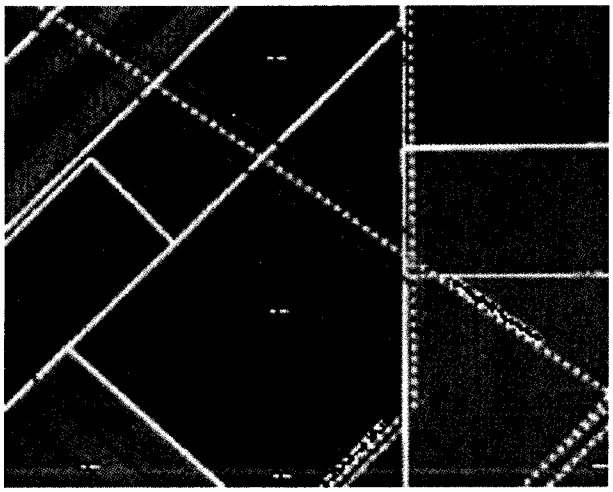


Figure 5. Krackau Link (Q2-004) tracts (center). (Source: LCRA Attachment 4, Sheet 7 of 19).

- The last set of tracts are our "Heimer" and "Davidson" tracts, located south and southeast of the Clear Springs substation. The Davidson tract (K1-160) is bordered by County Road 118 (Link Road) on the north and Barbarossa Road on the east. These tracts include 91.021 acres and 332.0 acres, respectively. We use these tracts for farming row crops and wheat. Our Heimer tract is listed as affected tract K1-158 and the Davidson tract is listed as affected tract K1-160 in LCRA's application. The proposed transmission line does not directly cross either of these properties, although proposed segment K1 would be located directly across the fence line from our properties. The Davidson tract (K1-160) is already burdened by a double-circuit 345-kV City Public Service transmission line that runs along the entire northern edge of the tract. (See LCRA Attachment 4, Map 1 of 19).

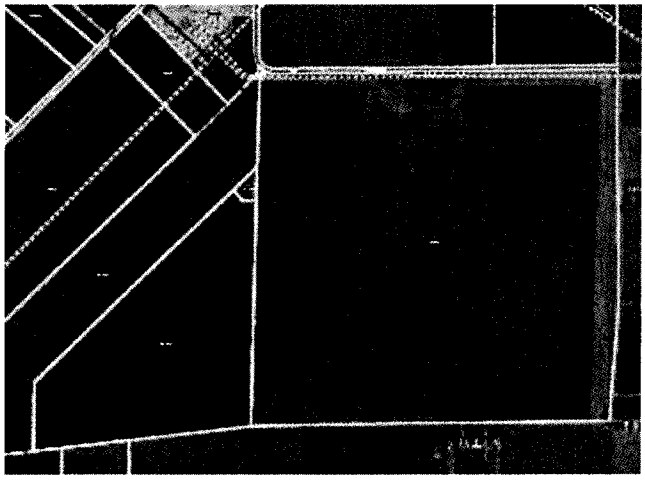


Figure 6. Krackau Heimer (K1-158) (lower center left) and Davidson (K1-160) (center right) tracts. (Source: LCRA Attachment 4, Sheet 12 of 19).

VI. EFFECT OF LCRA PROPOSED ROUTES ON KRACKAU PROPERTIES

Q. FIRST, AS YOU MENTIONED, DO EXISTING LCRA AND OTHER UTILITY TRANSMISSION LINES ALREADY AFFECT THE KRACKAU INTERVENORS' PROPERTIES IN GUADALUPE COUNTY?

A. Yes. As discussed in Section V above, and as shown in Figures 1 through 6 in that section, the Krackau Intervenors' properties are already burdened by LCRA's and other utilities' transmission lines. As mentioned, the Krackau Intervenors' properties, which span the entire eastern border of the study area, are already burdened by almost three miles of the existing LCRA Clear Springs to Zorn 345-kV double circuit transmission line approved in 2008 by the Commission in Docket No. 33978. The Krackaus' Hoffmann tract (D2-008), Pieper tract, Church tract (I2-002), Oelkers tract (K2-001), and Link tract (Q2-004) are all crossed by that 345-kV transmission line. Moreover, the Krackau Intervenor's Davidson tract (K1-160) is crossed by an existing City Public Service 345-kV transmission line running the entire width of the north side of that tract. In addition, the Krackau Intervenors' Oelkers tract (K2-001) is crossed by an existing, earlier-approved LCRA Clear Springs to Zorn transmission line running across the southeast corner of that tract. Finally, the Krackau Intervenors' Henze (Q2-001), Nemec

(Q2-002), and Link (Q2-004) tracts are all crossed by LCRA's existing 138-kV Freiheit Road to Clear Springs transmission line. As this list indicates, the Krackau Intervenors are already carrying a very substantial amount of the transmission infrastructure in the area. They should not be required to contribute again for another LCRA transmission line, particularly where there are better options that would not require routing the transmission line over the middle of the Krackau properties, as I discuss in Section VII, below.

Q. ARE THE KRACKAU INTERVENORS' PROPERTIES AFFECTED BY LCRA's PROPOSED ROUTES AND SEGMENTS IN THIS DOCKET?

A. Yes. We are adversely affected by 5 out of 15 of LCRA TSC's proposed routes and by 9 out of 72 of LCRA's proposed segments in its application.

Q. WHICH LCRA PROPOSED SEGMENTS AND ROUTES CROSS THE KRACKAU INTERVENORS' PROPERTY?

A. LCRA Proposed Routes 1, 3, 10, 11, and 12 and LCRA Proposed Segments A2-M2-J2-I2, H2-K2, O2, Q2 and Z1 cross the Krackau properties. Each of the listed segments will cross Krackau farmland in the middle of the tract and will, accordingly, interfere with Krackau farming and ranching operations, as I discuss below.

Q. PLEASE LIST WHICH ROUTES AND SEGMENTS CROSS WHICH KRACKAU INTERVENOR TRACTS AND HOW AND WHERE THEY CROSS?

A. The following table (Table 1) lists the routes and segments that cross the Krackau property and lists the area where the route/segment crosses the Krackau tracts:

Table 1
Routes/Segments Crossing Krackau Properties

Routes	Segments	Krackau Tracts Crossed	Area Crossed
10	A2-M2-J2-I2	Zimmerman (H2-001), Henze (Q2-001)	Mid-tract

1	O2	Henze (Q2-001), Nemec (Q2-002)	Mid-tract
3	H2-K2	Zimmerman (H2-001), Henze (Q2-001), Nemec (Q2-002)	Mid-tract
11	Q2	Henze (Q2-001), Nemec (Q2-002)	Mid-tract
12	Z1	Henze (Q2-001), Nemec (Q2-002)	Mid-tract

Q. DID LCRA SELECT A PREFERRED ROUTE IN THIS APPLICATION?

A. No. As a result of Commission changes to the CCN application form, LCRA did not choose a preferred route. Instead, as required by the changes to the application form, LCRA asserted that Route 10, which includes segments A2-M2-J2-I2 that cross Krackau property, is the "route that best complies with PURA and the Commission's rules."

Q. WHAT IS THE IMPACT OF ROUTE 10 AND OTHER PROPOSED ROUTES IN LCRA'S APPLICATION ON THE KRACKAU INTERVENORS' PROPERTY AND FARMING OPERATIONS?

A. As I discuss in more detail below, route 10 and other proposed routes in LCRA's application that use segments A2-M2-J2-I2 would significantly impair farming operations on the Krackau Intervenors' property, making it significantly less efficient, more difficult, less profitable, and more dangerous.

Q. **HOW WOULD ROUTE 10 AND SEGMENTS A2-M2-J2-I2 CROSS YOUR ZIMMERMAN, HENZE, AND NEMEC TRACTS?**

A. As proposed in LCRA TSC's application, segments A2-M2-J2-I2 of Route 10 would not follow a property boundary line between unrelated owners but would run through the middle of the tract. We currently farm the Zimmerman, Henze, and Nemec tracts as one large tract of farmland (approximately 302.02 acres) (See Figure 7, below.). Where it appears that segments A2-M2-J2-I2 follow property lines, they in fact do not. The indicated property lines along A2-M2-J2-I2 are internal and are not fenced to allow

farming of the combined tracts.

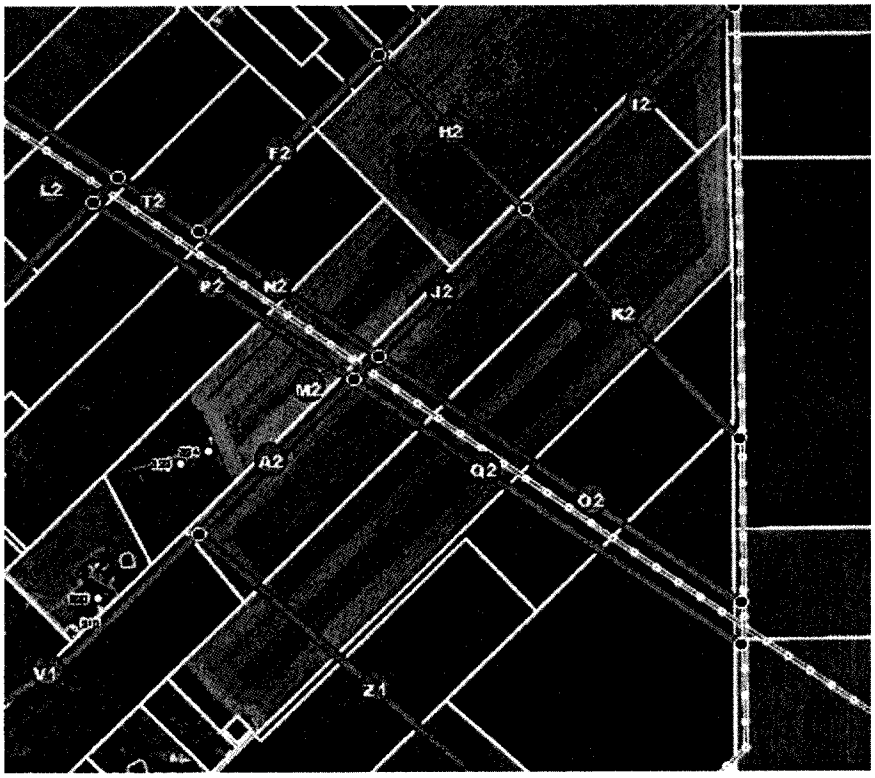


Figure 7. Segments A2-M2-J2-I2 (Route 10) and segments H2-K2 (Route 3), O2 (Route 1), Q2 (Route 11), and Z1 (Route 12) crossing Krackau Zimmerman (H2-001), Henze (Q2-001), and Nemec (Q2-002) tracts. (Source: LCRA Figure 5-1, Page 2 of 2).

Q WOULD ROUTE 10 AND THE OTHER SEGMENTS AND ROUTES THAT CROSS THE MIDDLE OF KRACKAU PROPERTIES DESTROY OR SERIOUSLY IMPAIR THE EFFICIENCY OF YOUR CURRENT FARMING OPERATION?

A. Yes. Segments A2-M2-J2-I2 in the eastern half of Route 10 would cross over the middle of the Zimmerman (H2-001), Henze (Q2-001), and Nemec (Q2-002) tracts of the Krackaus' farmland. Moreover, any other routes or segments that cross over the middle of our farm land will have the same effect.

Q. HOW WOULD ROUTE 10 AFFECT YOUR PROPERTY LOCATED ALONG SEGMENTS A2-M2-J2-I2?

A. These links would have a seriously adverse effect on our farmland and the efficiency of our farming operation. As proposed, this route would cut through the middle of our farmland and prevent us from farming it in an efficient and productive manner. These tracts are used mainly for row crops, grazing and hay cutting. They are not farmed as individually fenced and enclosed tracts, but as one large combined tract of over 330 acres. Because the acreage comprises one single very large tract without obstacles or obstructions, they are our most efficient tracts. Because there are no obstacles, we can run the sprayer at 18 mph and can cover the entire tract in two hours. If the poles or towers are located in the row crop portion of this land, our current efficient farming practices will not be possible and we will have to change our practices to less efficient methods of row crop farming. Farming around the foundations of poles or around large lattice towers will be difficult, inefficient, and dangerous using our current equipment. Purchasing new equipment or attempting to convert our present equipment would be cost prohibitive. Route 10 would all but destroy the efficiency of our current farming operation, unnecessarily and adversely affecting over 330 acres of our farmland.

Q. IN LIGHT OF THIS, DO YOU THE BELIEVE THE LCRA HAS COMPLIED WITH COMMISSION RULES REGARDING PLACEMENT OF PROPOSED 345-kV LINES?

A. No. A plain reading of P.U.C. Substantive Rule Section 25.101(b)(3)(B)(iii) requires consideration of whether a route follows existing property lines. As currently proposed, segment 10 does not follow a property boundary line, rather it unnecessarily cuts through the middle of our prime farmland.

Q. **DO YOU HAVE THE SAME CONCERN REGARDING ROUTES THAT INCLUDE SEGMENTS H2-K2, O2, Q2, AND Z1?**

A. Yes. Segments H2-K2 (Route 3), O2 (Route 1), Q2 (Route 11), and Z1 (Route 12) would

also cross through the middle of our farmland in our Zimmerman (H2-001), Henze (Q2-001), and Nemec (Q2-002) tracts, causing the same adverse effect on our ability to use our equipment in an efficient manner and imposing cost and inefficiency in the process.

Q EXPLAIN HOW YOUR CURRENT FARMING OPERATIONS ARE SUBJECT TO INTERFERENCE FROM ROUTE 10 AND SEGMENTS FROM THE EASTERN HALVES OF ROUTES 1, 3, 11, AND 12.

A. Route 10, any routes that use segments A2-M2-J2-I2, and any routes that include segments that cross over the middle of our farmland would so seriously affect the Krackau Intervenors' farming operations that they pose a serious threat to the viability of those operations. The presence of a 345-kV line on segments A2-M2-J2-I2 will have an adverse impact on our daily operations and cause a loss of income for my family and myself for decades to come and will destroy the efficiency we have worked so hard to establish and would seriously impair our farming operations on that acreage. As I mentioned above, we farm these tracts with very large scale farm implements that achieve tremendous efficiencies of scale and scope (see Exhibit CRK-1, attached). If Route 10 or other routes using segments A2-M2-J2-I2 or segments H2-K2, O2, Q2, and Z1 were approved, we would no longer be able to operate these implements in the efficient manner in which we currently operate. Essentially, by crossing over the middle of the Krackaus' farm land, these routes and segments would destroy the efficiency of the Krackaus' farming operations, as I explain below:

Farming today requires that the farmer achieve economies of scale in order to be competitive. Farmers must use increasingly larger equipment and advanced farming techniques to survive. Our family farms approximately 5,000 acres of row crops in Guadalupe County. This operation is based on 16-row planting/cultivating equipment, which is 40 feet wide (see Exhibit CRK-1, attached). We also use field cultivators that are 45 feet and 50 feet wide.

Our operation has just recently upgraded our Case 3330 Sprayer (for weed control) to a machine that has a boom 120 feet wide, 1,000-gallon capacity, and covers 167 acres per tank (see Exhibit CRK-1, attached). We also use GPS technology for our planting and cultivating. This technology helps to keep our planting rows straight and provides crop yield data. We have to have this size equipment to cover the land in a timely manner. We have invested many of thousands of dollars in this equipment. Trying to use this scale equipment to farm around the proposed pole or lattice tower footprints would be very difficult and would result in inefficiency and waste.

If LCRA TSC's routes 10, 1, 3, 11, or 12 were approved as proposed, or if any routes using segments A2-M2-J2-I2 or segments H2-K2, O2, Q2, and Z1 were approved, the transmission line would be built over the middle of our 330 acre Zimmerman, Henze, and Nemec tracts and we would have to maneuver around the large pole foundations and/or lattice towers placed in the middle of our crops. The planter, plows, disc harrows, sprayer and other equipment would have to be folded in each time to go around the towers. This equipment cannot be turned on a dime. This loss of time will be an added burden and will cause us to be significantly less efficient. Currently, we can begin at one property line and farm straight through to the next property line. The only turning that must be done is at the turn row (also known as property lines). If route 10, or any of the routes that use segments that cross the middle of Krackau tracts are approved, then we will not be able to continue taking advantage of this efficient practice. The impact on our farming can be analogized to the difference between driving an automobile on a straight avenue, through fare, or highway versus driving the same auto around a town square or a traffic roundabout. The auto can be driven more efficiently on a straight, uninterrupted path than it can on a path that requires stopping, starting, turning, and deviating. The same is true in our large fields.

There is also a safety issue. As I testified in Docket No. 33978 almost 8 years ago, anyone who drives our equipment will have to be extremely cautious not to hit the poles

or towers. If any of the equipment hit the structures, it would cause costly repairs for our equipment and/or injury to our employees or us.

Going around these structures will also have an adverse impact on the GPS systems we have installed. The GPS system is guided by WAS satellite and Coast Guard beacon which send signals to a light bar that the driver follows. The GPS is not going to recognize an upcoming structure.

The efficiency of our farming operations is important because it allows us to manage two main limits on farm productivity: time and weather. Time is almost always a severe limit because of the size of the tracts we farm and the always changing conditions of the weather. Unlike many farmers in our area, who may farm 50 to 300 acre fields, we farm fields that range between 300 and 700 acres. We cannot farm any time we like because temperature, wind, rain, and soil moisture and conditions may not allow it. We have to farm in what is usually a very narrow window where the temperature, wind, rain, and soil moisture and conditions will let us use our implements. We often have to farm late at night or early in the morning to catch fleeting windows of time where conditions are right for farming. Because time is such a harsh limit, when we have it we have to use it efficiently. Transmission line poles or towers that cross over the middle of our acreage play havoc with that efficiency.

I am also concerned about the upkeep by LCRA TSC of the land around the poles or under the towers and in the ROW. I have seen many structures in this immediate area with little or no upkeep and they have weeds and bushes growing beneath them, which turn to seed and will contaminate our farmland. If the structures are in the middle of our fields the growth around or beneath them could affect the entire piece of land. Control of unwanted weeds and grasses is a constant concern for all farmers.

Finally, I am concerned about what will happen to our property during the construction

phase of the project. The land will be compacted and rutted. This will require us to spend additional time plowing to prepare the land for a good seedbed. The presence of a 345-kV line using poles or lattice towers will have an adverse impact on our daily operations and cause a loss of income for my family and myself for decades to come.

Q. IS THE KRACKAUS' CONCERN RELATED TO THE VISUAL IMPACT, AESTHETICS, OR IMPACT ON LAND VALUES OF ROUTE 10 AND OTHER PROPOSED ROUTES IN LCRA'S APPLICATION THAT WOULD IMPAIR THE KRACKAU INTERVENORS' PROPERTY?

A. Not primarily. Like any other landowner, the Krackau Intervenors would, of course, prefer to maintain their land in a pristine and natural condition and, given a choice, would rather not have any more transmission lines appearing on their properties. The Krackaus also recognize that someday their property may become a candidate for development and that the presence of transmission line impacts the value of the property for that purpose. But, the Krackaus are not, like more urban parties, as much concerned about the visual impact as they are about the impact of the routes on the efficiency and feasibility of their farming operations considering the size and scale of the equipment we use to farm our land. Our principal concern is that if the line crosses over the middle of our farm land, the routes and segments will permanently harm the efficiency of the Krackaus' farming operations.

Q IS THE KRACKAUS' CONCERN RELATED TO ADVERSE IMPACT ON THE VIABILITY AND EFFICIENCY OF THE KRACKAUS' FARMING OPERATIONS ANY LESS IMPORTANT THAN OTHER LANDOWNERS' CONCERNS REGARDING VISUAL IMPACT, AESTHETICS, OR IMPACT ON LAND VALUES?

A. No. The Krackau Intervenors' livelihood comes from farming and efficiently carrying out the complex tasks of modern methods. Their profitability depends on the efficiency of their operations and their ability to keep up with and take advantage of advances that

improve the productivity of their farming operations. Modern digital technology, GPS-assisted methods, and very large-scale equipment have significantly improved efficiency and productivity. Locating transmission poles or structures across the middle of large-scale farmland would severely hamper farming with these modern, large-scale implements, impairing efficiency and productivity. As a farm-friendly and business-friendly state, Texas should approve and implement policies that foster and protect farming from activities that would impair it and reduce productivity. The Krackaus do not deny that electric transmission is increasingly needed to protect the reliability of the transmission grid, as reflected by the fact that their property is already crossed by two LCRA 345-kV transmission lines, one LCRA 138-kV transmission line, and one 345-kV City Public Service transmission line. But, as I discuss in the next section, there are better alternatives. Running another LCRA 345-kV transmission line over the Krackaus' property would unnecessarily harm their property, where alternatives exist that would not result in running the transmission line across and building transmission structures in the middle of the Krackau Intervenors' property.

VII. ALTERNATIVES TO PROPOSED ROUTE 10 AND OTHER ROUTES

Q. HAVE YOU CONSIDERED ROUTES OTHER THAN ROUTE 10 AND OF SEGMENTS OTHER THAN THOSE THE CROSS KRACKAU PROPERTIES?

A. Yes, I have.

Q. WHAT HAVE YOU FOUND REGARDING THOSE ALTERNATIVES?

A. I found two broad groups of alternatives: one, a group of alternatives that are not particularly good candidates and should not be given too much more weight; and, second, a group of other alternatives that would provide very good routes and that would offer better solutions than route 10 or other routes that use links that cross the middle of the Krackau properties.

Q. ARE LCRA ROUTES 8, 9, 13, AND 15, WHICH ALL USE SEGMENTS K1-Y1,

LIKELY PROSPECTS FOR THIS TRANSMISSION LINE?

A. No. LCRA routes 8, 9, 13, and 15, which use segments K1-Y1 but that also deviate significantly from a direct path from Marion to Clear Springs are unlikely prospects. They are too long, take overly circuitous routes, are too costly, and affect too many habitable structures. Route 7, however, which also terminates near Clear Springs using segments K1-Y1, is a good route and should be considered.

Q. ARE ROUTES THAT USE SEGMENT N1 LIKELY FOR THE SAME REASON?

A. No. Routes that use segment N1 are also unlikely because they would be too long, take overly circuitous routes, would be too costly, and would affect too many habitable structures. It does not appear that LCRA expressly proposed any route using segment N1, although LCRA noted that routes different from the ones it proposed could be assembled using any of its proposed segments. However, any routes using segment N1 would be unlikely candidates for Commission approval.

Q. ARE THERE OTHER ROUTES AND SEGMENT COMBINATIONS THAT WOULD BE BETTER SOLUTIONS THAN THESE ROUTES, ROUTE 10, AND THE ROUTES THAT CROSS THE KRACKAU PROPERTIES?

A. Yes, there are several. The routes and segments I list here in Table 2, below, provide very good routes and offer better solutions than the proposed route 10 and other routes that cross the Krackau property:

Table 2
Alternative Routes/Segments

Alt	Route	Segments	Length (New/Tot)	Cost (Poles)	Hab. Struct. (New)
1	10M	S2-I-M-T-V-Y-P1-T1-W1	9.5 19.9	$46.8M	35
2	5A	R2-B-D-R-D1-M1-O1-R1-U1-L2-T2-F2-G2	10.6 19.3	$49.0M	43
3	5	R2-B-D-R-C1-E1-L1-O1-R1-U1-L2-T2-F2-G2	10.8 19.5	$47.9M	80
4	10-5H	S2-I-M-T-V-Y-P1-S1-U1-l2-T2-F2-G2	10.6 19.3	$50.4M	54
5	6	R2-B-D-R-D1-M1-O1-R1-S1-T1-X1-Y1	10.5 20.9	$51.8M	44
6	7	S2-I-N-O-W-Z-I1-K1-Y1	10.4 20.9	$56.2M	125
7	4	R2-B-C-F-R-D1-M1-O1-Q1-C2-D2	11.3 18.7	$50.1M	142
8	14	S2-I-M-T-U-E1-L1-O1-Q1-C2-D2	11.0 18.4	$50.6M	181

Q. FOR COMPARISON, PLEASE TABULATE THE SAME DATA FOR ROUTE 10

A. The data for route 10 is tabulated in Table 3 below:

Table 3
Route 10 Comparison Data

Alt	Route	Segments	Length (New/Tot)	Cost (Poles)	Hab. Struct. (New)

1	10	S2-I-M-T-V-Y-P1-V1-A2-M2-J2-I2	9.9 19.0	$47.7M	40

Q. WHY ARE THESE ROUTES, PARTICULARLY ROUTES 10M, 5A, 5, 10-5H, AND 6, BETTER OPTIONS?

A. They are either shorter, or almost as short, as Route 10. Their cost is less, nearly the same as, or only slightly higher than the cost of Route 10. They affect fewer, about the same number, or only slightly more habitable structures than route 10. They progress directly towards the vicinity of the Clear Springs substation (routes 10M and 6) or northeastward towards the deflection of the existing Clear Springs to Zorn 345-kV transmission line that was approved in Docket No. 33978 near the northwest corner of the Krackaus' Hoffmann tract (D2-008). Yet, although they are short, proceed directly, have a reasonable cost, and affect few new habitable structures, they do not cross over the middle of the Krackaus' farmland and, so, do not impair, disrupt, or destroy the efficiency of the Krackaus' farming operations.

Q. WOULD ROUTE 10M, LCRA ROUTES 5, 5A, AND 6, AND KRACKAU ROUTE 10-5 HYBRID ROUTE, AND OTHER ROUTES NOT INCLUDED IN LCRA'S 15 PROPOSED ROUTES BUT CREATED USING LCRA PROPOSED SEGMENTS C2-D2; F2-G2; T1-W1; AND T1-X1-Y1 BE BETTER SOLUTIONS FOR ROUTING THAN ROUTE 10?

A. Yes. Staff route 10M, LCRA routes 5, 5A, and 6, Krackau 10-5H hybrid route, and other routes not included in LCRA's 15 proposed routes but created using LCRA proposed segments C2-D2; F2-G2; T1-W1; and T1-X1-Y1 would be better solutions for routing than route 10.

Q. WHY ARE ROUTES THAT USE LCRA PROPOSED SEGMENTS C2-D2; F2-G2; T1-W1; AND T1-X1-Y1 BETTER SOLUTIONS FOR ROUTING THAN ROUTE 10?

A. Routes created using LCRA proposed segments C2-D2; F2-G2; T1-W1; and T1-X1-Y1 are better solutions for routing than route 10 because they are either: a) more direct to Zorn (routes using segments C2-D2); b) more direct to Clear Springs (routes using segments T1-W1; and T1-X1-Y1); or c) if they proceed to a midpoint on the north-south leg of the existing Clear Springs to Zorn 345-kV transmission line along the eastern edge of the study area and across the Krackaus' properties, they avoid crossing directly over the middle of the Krackaus' farmland and the disruption of the Krackaus' farming operations that results (routes using segments F2-G2).

Q. OF THESE ALTERNATIVES, WHICH DO YOU THINK WOULD PROVIDE THE BEST SOLUTIONS FOR ROUTING THAN ROUTE 10?

A. I think Route 10M is the best solution. At 9.5 miles of new route and 19.9 miles of total route, it is shorter than Route 10 and all other routes. And, because it uses segments T1-W1 as the path to Clear Springs, it tracks directly to the Clear Springs substation, addressing and offering a solution to, the problem I testified about above regarding the fact that the proposed second circuit has no route to Zorn for its eastern half, and, as Ms. Hernandez testified, must terminate at Clear Springs. At $46.8 million, the cost of route 10M is less than any other route, including Route 10. Thus, it is very inexpensive. Its most attractive feature is that it affects only 35 new habitable structures, five less than route 10. If both circuits travel to the Clear Springs vicinity, Route 10M is the best solution by far. In fact, route 10M, not route 10, is the route that best complies with PURA and the Commission's rules.

Route 5A is almost equally good and is the second best solution. Route 5A is short, using 10.6 miles of new right of way and having a total length of 19.3 miles. Its price is low, totaling only $49.0 million, only slightly more than the cost of route 10. It affects only 43 new habitable structures, three more than route 10, which affects 40. And, it terminates using segments F2-G2, which routes around the Krackau properties along the Krackaus' fence line of their Zimmerman tract (H2-001) from their neighbors to the

northwest, the Friesenhahns.

Route 5 is also very good for similar reasons. Route 5 is comparable in length and price, although it affects 80 new habitable structures. It also avoids the Krackaus' property by using segments F2-G2 to run along the fence line between the Krackaus' Zimmerman tract (H2-001) and their neighbors.

Krackau route 10-5H, the Krackaus' route 10-5 hybrid, is a very good solution, and the one I consider the third best solution. Route 10-5H is an exceptional solution for tying in to the middle of the open position of the north-south leg of the Clear Springs to Zorn 345-kV transmission line. It is short, using only 10.6 miles of new route and a total distance of 19.3 miles. Because it terminates with segments F2-G2, it would have many of the advantages of Route 10, but, unlike Route 10, would not travel through the middle of the Krackaus' farmland. We have learned through informal discovery from LCRA that its total estimated cost would be $50.4 million, a cost comparable to my other recommended alternatives. It also has the advantage that it affects only 54 new habitable structures.

Finally, LCRA Route 6 is also very good. It proceeds efficiently to the Clear Springs substation over segments T1-X1-Y1. It is short, with 10.5 miles of new route and 20.9 miles of new and existing route overall. It is relatively inexpensive, coming in at $51.8 Million. And it only affects 44 new habitable structures.

Q. ARE THERE ANY OTHER ALTERNATIVES THAT YOU THINK WOULD PROVIDE THE BETTER SOLUTIONS FOR ROUTING THAN ROUTE 10?

A. Yes. LCRA Routes 4, 14, and 7, are also very good routes. In one respect, Routes 4 and 14 are the best solution because they travel directly from Marion toward Zorn over a route that is more direct than Route 10. Route 10 deflects where it would join the open position of the existing Clear Springs to Zorn 345-kV transmission line approved in Docket No. 33978. Routes 4 and 14 do not deflect where the new route joins "to Zorn"

leg of the open circuit of that line, but proceed straight ahead toward Zorn without deflection near the northwest corner of the Krackaus' Hoffmann tract (D2-008). Routes 4 and 14 are short. The new routes of 4 and 14 are only slightly longer than the 9.9 mile length of the new part of route 10. But, at 18.7 and 18.4 miles, respectively, the overall lengths of routes 4 and 14 are both less than that of route 10 at 19.0 miles. They are both inexpensive. Route 4 would cost $50.1 million, route 14 would cost $50.6 million. The one factor in which routes 4 and 14 are lagging is their impact on new habitable structures. While route 10 affects 40 new habitable structures, routes 4 and 14 affect 142 and 181 new habitable structures, respectively. In spite of this, they are still very attractive routes because of the way they proceed directly toward Zorn.

Finally, Route 7 is also a very good route. It uses a very direct path from Marion to Clear Springs over a southerly route that is very efficient. It is relatively short at 10.4 miles of new route and a 20.9 mile total route. However, route 7 is slightly more expensive ($56.2 Million) and affects 125 new habitable structures.

Q. HOW DO THESE ALTERNATIVES STACK UP IN THE COMPARISON OF THE "EVALUATION CRITERIA" SET OUT IN TABLES 5-1 AND 5-2 OF LCRA'S ENVIRONMENTAL ASSESSMENT?

A. Though I have focused on length, cost, and the number of new habitable structures affected, the other applicable evaluation criteria are also important. As shown in LCRA Tables 5-1, 5-2, the tables in Attachment 2 to LCRA's application, Exhibit RH-3 attached to Ms. Hernandez's testimony, and LCRA's response to Staff RFI 2-1 and 2-2, the routes I have recommended, particularly Route 10M, 5A, 5, and 10-5H are better or comparable to other routes in a head-to-head comparison of these evaluation criteria.

VIII. RECOMMENDATION AND CONCLUSION

Q. WHAT DO YOU CONCLUDE AND WHAT DO YOU RECOMMEND

REGARDING THE MARION TO ZORN CIRCUIT TO BE APPROVED IN THIS PROCEEDING?

A. First, I conclude that LCRA's application has merit, that there is need for the application, but that there are notice problems for the first circuit for landowners outside the study area on the part of the route that uses the existing Clear Springs to Zorn 345-kV transmission line approved in Docket No. 33978. I also conclude that the fact that there is no route to Zorn included in LCRA's application for the second circuit of the line proposed in this filing is problematic and may indicate that both circuits should be properly routed to the vicinity of Clear Springs. Next, I conclude that Route 10, as proposed by LCRA, would damage or destroy the efficiency of the Krackaus' farming operations, making it impossible to use their equipment in the manner in which it was intended and to achieve the efficiencies and economies the proper use of that equipment provides. Then, I conclude that Route 10M, as described by Staff in Staff RFI 2-2, LCRA Routes 5, 5A, and 6, as described by LCRA in its application, and Krackau hybrid Route 10-5H, as described by me in my testimony, are the best routes and should be approved. I recommend and requesting that the ALJs and the Commission approve one of these routes for the Marion to Zorn circuit to be approved in this proceeding.

Q. IN MAKING ITS CHOICE, SHOULD THE COMMISSION CONSIDER THAT THE KRACKAU INTERVENORS' PROPERTIES ALREADY BURDENED BY LCRA AND OTHER UTILITIES' TRANSMISSION LINES?

A. Yes. The Commission should not forget that the Krackau Intervenors' properties, which span the entire eastern border of the study area, are already burdened by LCRA's existing Clear Springs to Zorn 345-kV transmission line approved in Docket No. 33978 that already includes one 345-circuit and in which LCRA proposes to route the second circuit of the line it seeks in this docket. Moreover, the Krackau Intervenor's properties are also burdened by other LCRA and CPS 345-kV and 138-kV transmission lines. Because they have already born more than their fair share of the burden of transmission infrastructure, the Krackau Intervenors should not be burdened again with another LCRA transmission

line.

Q. WOULD YOUR RECOMMENDED ROUTES MITIGATE THE DAMAGE TO THE KRACKAU PROPERTY THAT YOU DESCRIBED IN YOUR TESTIMONY?

A. Yes. Routes that use segments C2 and D2 (routes 4 and 14) in the far northeast corner of the study area; routes that use segments F2 and G2 (5, 5A, and 10-5H) in the middle of the study area, and routes that use segments T1, W1, Y1, and X1 (10M and 6) near the Clear Springs substation appear to proceed most directly from Marion to Zorn or from Marion to the vicinity of the Clear Springs substation and would avoid crossing over the middle of the Krackau farmland. At the same time, they are reasonable routes that are shorter or almost as short as route 10, affect fewer, almost the same, or only slightly more new habitable structures, and are about the same cost or only slightly more than the cost of route 10.

Q. ARE YOU RECOMMENDING THESE OTHER ROUTES AND SEGMENTS SOLELY TO AVOID THE IMPACT OF THE LINE ON THE KRACKAU PROPERTY?

A. No. Although moving the line to a route that would not cross over the middle of the Krackaus' farmland is clearly part of my concern and undeniably a part of my motive, I am also motivated by the fact that looking at LCRA's maps reveals an underlying strategy of routing the line either directly to the Zorn substation or, alternatively, of routing the line on a direct path from the Marion substation to the vicinity of the Clear Springs substation and then from there on to Zorn. Routes 10M, 5, 5A, 6, and 10-5H achieve those objectives. Route 10-5H will correct the flaws of Route 10 if it is determined that the best strategy is to route the line to connect to the middle of the Clear Springs to Zorn 345-kV line approved in Docket No. 33978. But all my recommended routes would resolve my concern over the impact of the line one the Krackaus'

operations, while still providing very good, short routes that are inexpensive and affect the least number of new habitable structures.

Q. **DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes.

AFFIDAVIT

STATE OF TEXAS

COUNTY OF GUADALUPE

BEFORE ME, the undersigned notary public personally appeared Charles R. Krackau to me known, who being duly sworn according to law, deposes and says:

My name is Charles R. Krackau. I am of legal age and a resident of the State of Texas. I certify that the foregoing testimony offered by me on behalf of myself and my wife, Charles R. and Lori L. Krackau, and on behalf of Jerry W. Krackau, Lynnette K. Cranford (formerly Krackau), the Clarence A. Krackau Family Trust, Charles R. Krackau, Trustee, and the Estate of Lorine K. Krackau, Charles R. Krackau, Executor (collectively, the "Krackaus" or the "Krackau Intervenors"), is true and correct to the best of my knowledge and belief after reasonable inquiry.

Charles R. Krackau

Subscribed and sworn to before me, Charles R. Krackau, notary public, on this the 2 day of May, 2016.

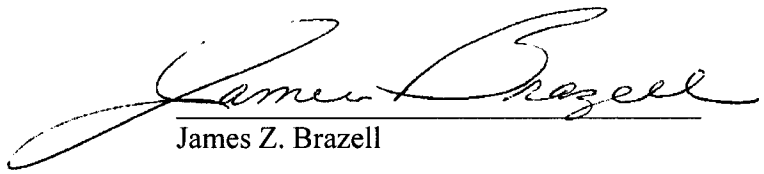
RHONDA K. WHITE
NOTARY PUBLIC
STATE OF TEXAS
My Comm. Expires 10-10-2016

Rhonda K White
Notary Public for the State of Texas

My Commission expires: 10-10-16

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document was served on all parties of record in this proceeding by U.S. mail, postage prepaid, facsimile, hand delivery, e-mail, or and/or non-traditional service, as ordered by the presiding officers, this, the 3rd day of May, 2016.



James Z. Brazell

Krackau Case 3330 Sprayer
120-foot boom, 1,000-gallon capacity, 167 acres per tank

Krackau 16-Row Planter