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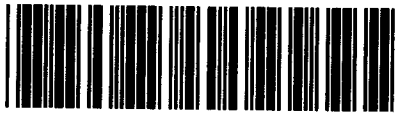

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SOAH DOCKET NO. 473-11-0945
PUC DOCKET NO. 38743

APPLICATION OF ELECTRIC TRANSMISSION TEXAS, LLC TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE PROPOSED TESLA TO EDITH CLARKE TO CLEAR CROSSING TO WEST SHACKELFORD DOUBLE-CIRCUIT 345-KV TRANSMISSION LINE IN CHILDRESS, COTTLE, HARDEMAN, FOARD, KNOX, HASKELL, JONES, AND SHACKELFORD COUNTIES, TEXAS PURSUANT TO P.U.C. SUBST. R. 25.174	§	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

REBUTTAL TESTIMONY

OF

BLAKE TUCKER

ON BEHALF OF

ELECTRIC TRANSMISSION TEXAS, LLC

JANUARY 11, 2011

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SOAH DOCKET NO. 473-11-0945
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REBUTTAL TESTIMONY OF BLAKE TUCKER

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Blake Tucker. My business address is 212 East Sixth Street, Tulsa, Oklahoma, 74119.

Q. ARE YOU THE SAME BLAKE TUCKER THAT PROVIDED DIRECT TESTIMONY IN THIS DOCKET?

A. Yes, I am.

II. PURPOSE AND OVERVIEW OF REBUTTAL TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My rebuttal testimony addresses the following issues raised by intervenor and Staff witnesses:

- Spanning ETT's proposed CREZ transmission line across the upper reaches of what may become the Cedar Ridge Reservoir;
- Underbuilding a 138-kV or 69-kV transmission line on ETT's proposed CREZ transmission line; and
- Adjusting the right-of-way (ROW) if necessary to address a habitable structure issue raised by Staff witness T. Brian Almon.

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR RESPONSE TO THE THREE ISSUES LISTED ABOVE.

A. Although the rebuttal testimony of ETT witness Rob R. Reid addresses many of the issues raised by intervenor witnesses concerning routing ETT's proposed transmission line around the possible future location of the Cedar Ridge Reservoir,

my rebuttal testimony focuses on assertions about spanning the line across the upper reaches of the proposed reservoir site. As the testimony from intervenor City of Abilene confirms, the ETT line will span the normal conservation pool of the reservoir, if the reservoir is eventually built. Although pole structures would be placed in the projected floodplain for the 100-year, 500-year, and probable maximum flood levels for the proposed reservoir, this is entirely feasible from an engineering perspective. Given the uncertainty that the reservoir will even be constructed, multiplied by the extremely low probability of these flood events occurring, there is no practical engineering reason not to utilize the routing links proposed by ETT that skirt the far upper reaches of the proposed reservoir site.

It is possible to underbuild a 138-kV or 69-kV transmission line on the CREZ circuits proposed in this case as some intervenors have suggested, but a variety of factors including cost, maintenance, safety, line relaying, coordination for both operation and maintenance, and liability issues with joint use facilities make this an undesirable choice if other reasonable options are available.

As Mr. Reid explains in his rebuttal testimony, ETT can adjust span length and ROW width if necessary in the vicinity of a habitable structure discussed in Staff witness Mr. Almon's testimony, in order to avoid placing that structure in the ROW.

III. SPANNING THE PROPOSED CEDAR RIDGE RESERVOIR SITE

Q. CITY OF ABILENE WITNESS TOMMY O'BRIEN STATES THAT TOWERS FOR PROPOSED LINKS C8 OR C9 WILL NEED TO BE LOCATED WITHIN THE 100-YEAR FLOOD, 500-YEAR FLOOD, AND PROBABLE MAXIMUM

FLOOD ZONES FOR THE PROPOSED CEDAR RIDGE RESERVOIR. WHAT IS YOUR RESPONSE?

A. If the reservoir is ultimately constructed based on the current site and plans, some towers would be located in the floodplain for 100-year and larger floods. As a result, in a probabilistic sense these towers would be inundated approximately once every 100 years. A number of engineering measures can be undertaken to address such a low-probability event, including using taller tower structures to maintain line clearance over flood waters or being prepared to take the line out of service during the extremely rare flood event. Debris in the water could be a consideration for the towers. Once the final tower locations are determined, specific measures can be implemented if necessary to mitigate the possibility of damage by floating debris during the rare flood event. Another consideration would be the saturated soil conditions surrounding the structures during a flood event. The foundations can be designed to account for this possibility.

Q. WILL ANY TOWERS BE LOCATED IN THE NORMAL CONSERVATION POOL OF THE RESERVOIR IF IT IS BUILT?

A. No. As the Abilene witnesses recognize, ETT's normal span between towers for the proposed line will be 850 feet. That span can be increased by using taller towers if necessary. The longest span of the projected conservation pool identified by Abilene witness Tommy O'Brien is 451 feet. As a result, the proposed site of the normal conservation pool for the reservoir can readily be spanned by ETT's proposed route.

Q. IS THERE A SOLUTION IF THE ETT LINE IS BUILT AND ABILENE DETERMINES AT SOME FUTURE DATE, IN THE EVENT THE RESERVOIR IS ACTUALLY BUILT, THAT THE LINE INTERFERES WITH THE RESERVOIR?

A. Yes. As Abilene witness Scott Hibbs testifies, if Abilene does ultimately complete the Cedar Ridge Reservoir, it will need to relocate an existing 138-kV transmission line as part of the cost of the reservoir project. In the unlikely event that the reservoir is completed and Abilene concludes the ETT CREZ line interferes with it, Abilene will also have the option to relocate the ETT line.

IV. UNDERBUILDING A 138-KV OR 69-KV LINE

Q. SEVERAL INTERVENOR WITNESSES, INCLUDING J. TODD THOMAS, LYNDLE REEVES AND LINDY PATTON, PROPOSE THAT AN EXISTING 138-KV TRANSMISSION LINE BE UNDERBUILT ON ETT'S CREZ LINE. WHAT IS YOUR RESPONSE TO THIS PROPOSAL?

A. Underbuilding an existing 138-kV or 69-kV line on ETT's CREZ line may be achievable, but cost, maintenance, safety, line relaying, coordination for both operation and maintenance, and liability issues with joint use facilities make it an undesirable choice if other reasonable options are available.

Q. PLEASE DISCUSS THE FACTORS THAT SHOULD BE CONSIDERED IN EVALUATING WHETHER TO UNDERBUILD AN EXISTING 138-KV OR 69-KV LINE ON ETT'S CREZ LINE.

A. An initial factor is cost. ETT does not currently have a design for a triple-circuit structure. However, ETT estimates that constructing a line with two 345-kV CREZ

circuits and one 138-kV or 69-kV circuit would cost an additional $500,000 to $900,000 per mile (the dollar amount varies depending on the number of angle structures necessary), in addition to the approximately $1.7 million per mile to construct the CREZ line. This cost estimate includes the hardware for the line but does not include the cost of removing the existing 138-kV or 69-kV facility, the termination and protection equipment cost, increased maintenance costs, or legal and administrative costs associated with the necessary agreements between different transmission owners and with any necessary regulatory approvals.

Q. STAFF WITNESS T. BRIAN ALMON REQUESTS THAT ETT ESTIMATE THE COST OF THE UNDERBUILDING PROPOSALS ADVANCED BY INTERVENOR WITNESSES REEVES AND BURNETT. HAVE YOU REVIEWED THE INTERVENORS' PROPOSALS?

A. Yes. Intervenor Reeves is requesting that a portion of an existing 138-kV transmission line be relocated and added to the new 345-kV CREZ line resulting in a triple-circuit line along Link B5 if that link is used in a route approved by the Commission. Intervenor Reeves is also requesting that the link be relocated along the eastern property line of Intervenors Reeves, Kinnibrough, Welch, and Ressell; and Royce Miller who is not a party in this docket. Intervenor Burnett is requesting that Link B14 be relocated along the western property boundary of Intervenors Burnett and others, and generally parallel to F.M. 267. Though Intervenor Burnett does not specifically indicate in his testimony that he is requesting that the existing line be

constructed on the new 345-kV CREZ line, I understand that he is also requesting such a modification.

These modifications will require approximately 12.2 miles of triple-circuit construction and approximately one mile of new 138-kV transmission line construction. The new 138-kV transmission line construction is necessary because the existing 138-kV line diverges from the original location of Link B14 before the link rejoins the Intervenors' proposed modification.

Q. HAVE YOU PREPARED A COST ESTIMATE FOR THE INTERVENOR PROPOSALS THAT INVOLVE LINKS B5 AND B14?

A. Yes, I have prepared a preliminary estimate of the cost to modify the location of links B5 and B14 and to construct the modified links as a triple circuit line. The additional cost is estimated to be $16.25 million greater than constructing the CREZ line as originally proposed and includes an estimate for the termination and protection equipment costs.

Q. STAFF WITNESS T. BRIAN ALMON REQUESTS THAT ETT ESTIMATE THE COST OF THE UNDERBUILDING AND LINK MODIFICATION PROPOSALS ADVANCED BY INTERVENOR RONNIE CHAPMAN. HAVE YOU PREPARED SUCH AN ESTIMATE?

A. Yes. Intervenor Chapman has requested that Link B30 be relocated approximately 1050 feet to his western property boundary and that an existing 138-kV line parallel to Link B30 be relocated and under built on the CREZ line. The original location of

Link B30 is approximately 2850 feet across Intervenor Chapman's property and will likely require no more than four single-pole tangent structures to cross the property. Intervenor Chapman's requested modification would require four 90° triple-circuit angle structures and a total of four single-pole tangent structures to accomplish the proposed relocation. The preliminary estimated cost to relocate the link and under build the existing line on Intervenor Chapman's property approximately $7.2 million and includes an estimate for the termination and protection equipment costs.

Q. BESIDE COST, WHAT OTHER FACTORS SHOULD BE CONSIDERED IN EVALUATING THE UNDERBUILD OPTION?

A. Maintenance and safety factors should also be considered. Much of the time, the underbuilt load-serving 69-kV or 138-kV line would need to be taken out of service to access either of the 345-kV circuits for maintenance. The alternative, working on one circuit while others are still energized, will pose additional safety risks to maintenance workers. Such maintenance and line outages would need to be coordinated between different owners of the CREZ and underbuilt lines, increasing the complexity of the activity.

In addition, agreements would have to be reached between the different transmission owners concerning numerous issues such as ownership and operational responsibility of each party, mutual easements, liability, removal of the existing line, and cost responsibility and recovery. Additional regulatory approvals may be required, particularly if the existing 69- or 138-kV line is relocated to be underbuilt

on the CREZ line. All of this could take time and potentially delay the estimated 2013 in-service date for the CREZ line.

Proper relay protection of the 69- or 138-kV line in this underbuilt configuration will also be a consideration. The standard 138-kV and 69-kV line relay equipment most likely will not provide the necessary line protection due to the induced voltage from the two 345-kV circuits. This will possibly require significant expenditures on the terminal ends of the 138-kV and 69-kV lines.

Finally, if single pole structures are used, the structures for the underbuilt line would be taller than a regular CREZ structure in order to accommodate the additional circuit. ETT estimates that the average pole height would be 170 feet, compared to 140 feet for a normal CREZ line, and could reach heights of 230 to 250 feet when crossing other transmission lines. H-frame type structures could be utilized for the triple circuit line. This would reduce the heights of the structures, but increase the footprint of the line. A detailed evaluation would have to be completed if the triple circuit option is selected. ETT has not built a line with this configuration previously. Detailed engineering would be required to determine the optimum configuration and to develop a new family of structures.

V. ADJUSTING SPAN LENGTH AND RIGHT-OF-WAY WIDTH

Q. STAFF WITNESS T. BRIAN ALMON ASKS ETT TO CLARIFY WHETHER A HABITABLE STRUCTURE COULD BE IN THE PROPOSED ROW ON LINK C6A. WHAT MEASURES COULD BE TAKEN IF NECESSARY TO AVOID PLACING THE STRUCTURE IN THE ROW?

A. As ETT witness Rob R. Reid discusses in his rebuttal testimony, Link C6a is located between an existing 138-kV line and habitable structure number 62. If Link C6a is approved by the Commission and the structure is determined to be within the ROW, ETT could reduce the ROW width in this area in order to place the structure outside the ROW. This could be accomplished by moving the transmission structures closer together in this area, which reduces the blowout of the lines. ROW width is based largely on the amount of blowout of the line conductors, so less blowout would allow a narrower ROW.

VI. SUMMARY AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A. On the routes proposed by ETT, it will not be necessary to place structures in the projected normal conservation pool of the proposed Cedar Ridge Reservoir, in the event that reservoir is ultimately completed. Although structures would be placed in the floodplains of the projected 100-year flood, 500-year flood, and probable maximum flood, there is no engineering reason why that cannot be accomplished.

Underbuilding an existing 138- or 69-kV line on ETT's CREZ line could be achieved, but significant cost, maintenance, safety, line relaying, coordination for both operation and maintenance, and liability issues with joint use facilities make that an undesirable solution if other reasonable options are available.

ETT can adjust span length and ROW width if necessary in the vicinity of the habitable structure discussed in Staff witness Mr. Almon's testimony in order to avoid placing that structure in the ROW.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.