Control Number: 38324

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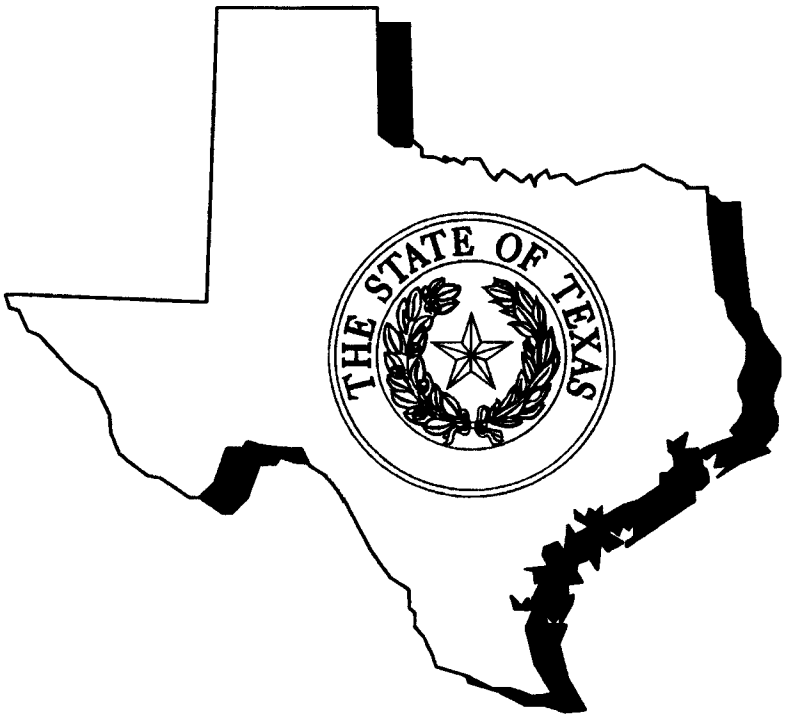
SOAH DOCKET NO. 473-10-4789
PUC DOCKET NO. 38324

APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED CREZ 345 KV TRANSMISSION LINE IN DENTON, PARKER, TARANT AND WISE COUNTIES, TEXAS (WILLOW CREEK-HICKS CCN)	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**



DIRECT TESTIMONY OF

MICHAEL J. LEE, P. E.

INFRASTRUCTURE AND RELIABILITY DIVISION

PUBLIC UTILITY COMMISSION OF TEXAS

September 17, 2010

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ATTACHMENTS

I. QUALIFICATIONS

Q. Please state your name, occupation and business address.

A. My name is Michael J. Lee. I am employed by the Public Utility Commission of Texas (Commission) as an Electric Utility Engineer in the Infrastructure and Reliability Division. My business address is 1701 North Congress Avenue, Austin, Texas 78711-3326.

Q. Please outline your educational and professional background.

A. I have a Bachelor of Science in Electrical Engineering. My thirty-eight years of professional experience includes electronic engineering; air quality regulation; and electric utility transmission engineering, maintenance, and operation. I have been employed by the P.U.C. since March, 2004. A more detailed resume of my experience is provided in Attachment ML-1.

Q. Are you a registered professional engineer?

A. Yes, Certificate Number 76846 in the State of Texas.

Q. Have you filed testimony at the Commission in previous cases?

A. Yes. A list of the dockets in which I have testified is provided as Attachment ML-2.

II. SCOPE OF TESTIMONY

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to present Commission Staff's recommendations concerning the application of Oncor Electric Delivery Company, LLC (Oncor) to amend its Certificate of Convenience and Necessity (CCN) to construct a new double-circuit 345 kilovolt (kV) transmission line from Oncor's existing Willow Creek Switching Station

(Willow Creek or WC) in Wise County to Oncor's new Hicks Switching Station (Hicks) to be constructed in Tarrant County (Application). New facilities will be required at both switching stations as part of the proposed project, but those facilities do not require Commission approval. In my testimony, the project will be referred to as the "Willow Creek-Hicks 345 kV Project" or "the proposed project." Oncor was ordered to construct this proposed project in Docket Nos. 37902 and 36802 as part of the Competitive Renewable Energy Zone (CREZ) plan designated by the Commission in Docket No. 33672.[1] This proposed project is a CREZ Project but no portion of the project is located in a CREZ.

Q. What are the statutory requirements that a utility must meet to amend its CCN to construct a new transmission line?

A. Section 37.056(c) of the Public Utility Regulatory Act (PURA)[2] states that the Commission may approve such an application only if the Commission finds that the new transmission line is necessary for the service, accommodation, convenience, or safety of the public. Further, the Commission shall approve, deny, or modify a request for a transmission line after considering the factors specified in PURA § 37.056(c) which are as follows:

(1) the adequacy of existing service;

(2) the need for additional service;

[1] *Remand of Docket No. 35665 (Commission Staff's Petition for Selection of Entities Responsible for Transmission Improvements necessary to Deliver Renewable Energy from Competitive Renewable Energy Zones),* Docket No. 37902, Order on Remand (March 30, 2010); *Proceeding to Sequence Certificate of Convenience and Necessity Applications for the Subsequent Projects for the Competitive Renewable Energy Zones,* Docket No. 36802, Order Setting Revised Schedule (June 3, 2010).

[2] Public Utility Regulatory Act, TEX. UTIL. CODE §§ 11-001-64.158 (Vernon 2007 & Supp. 2009) (PURA).

(3) the effect of granting the certificate on the recipient of the certificate and any electric utility serving the proximate area; and

(4) other factors, such as:

(A) community values;

(B) recreational and park areas;

(C) historical and aesthetic values;

(D) environmental integrity;

(E) the probable improvement of service or lowering of cost to consumers in the area if the certificate is granted; and

(F) to the extent applicable, the effect of granting the certificate on the ability of this state to meet the goal established by Section 39.904(a) of this title.

PURA § 39.904(h) provides that the factors enumerated in PURA § 37.056(c)(1) and (2) relating to the adequacy of existing service and the need for additional service need not be considered for CREZ projects. Consequently, these factors need not be considered in this docket and are not addressed in my testimony.

Q. Do the Commission's rules provide any instruction regarding routing criteria?

A. Yes. P.U.C. SUBST. R. 25.174(c)(5) removes consideration of the adequacy of existing service and the need for additional service from consideration in CCNs for CREZ transmission projects. P.U.C. SUBST. R. 25.101(b)(3)(B) requires that an application for a new transmission line address the criteria in PURA § 37.056(c) and that considering those criteria, engineering constraints, and costs, the line shall be routed to the extent

reasonable to moderate the impact on the affected community and landowners unless grid reliability and security dictate otherwise. Unless a route is agreed to by: (1) the utility, (2) the landowners whose property is crossed by the proposed line, and (3) the owners of land that contains a habitable structure within 300 feet of the centerline of a transmission project of 230 kV or less or within 500 feet of the centerline of a transmission project greater than 230 kV and otherwise conforms to the criteria in PURA § 37.056(c), the following factors shall be considered in the selection of the utility's preferred and alternate routes:

(i) whether the routes utilize existing compatible rights-of-way, including the use of vacant positions on existing multiple-circuit transmission lines;

(ii) whether the routes parallel existing compatible rights-of-way;

(iii) whether the routes parallel property lines or other natural or cultural features; and

(iv) whether the routes conform with the policy of prudent avoidance.

Q. What issues identified by the commission must be addressed in this docket?

A. In the Order of Referral and Preliminary Order issued on June 17, 2010, the Commission identified the following issues that must be addressed:

1. Is Oncor's application to amend its CCN adequate? Does the application contain an adequate number of reasonably differentiated alternative routes to conduct a proper evaluation? In answering this question, consideration must be given to the number of proposed alternatives, the locations of the proposed transmission line, and any associated proposed facilities that influence the location of the line. Consideration

may also be given to the facts and circumstances specific to the geographic area under consideration, and to any analysis and reasoned justification presented for a limited number of alternative routes.[3] A limited number of alternative routes is not in itself a sufficient basis for finding an application inadequate when the facts and circumstances or a reasoned justification demonstrates a reasonable basis for presenting a limited number of alternatives. If an adequate number of routes in not presented in the application, the ALJ shall allow Oncor to amend the application and to provide proper notice to affected landowners; if Oncor chooses not to amend the application, the ALJ may dismiss the case without prejudice.

2. Did the notice provided by Oncor comply with P.U.C. PROC. R. 22.52(a)?

3. Does the application meet the filing requirements set forth in P.U.C. SUBST. R. 25.216(g)(2) and (3)?

4. Did Oncor submit the CCN application in compliance with the Orders in Docket Nos. 37902 and 36802 assigning it responsibility for a CREZ Transmission Plan facility? If not, should the Commission revoke the designation awarded to Oncor and select another entity for the CREZ Transmission Plan facility at issue in this docket pursuant to P.U.C. SUBST. R. 25.216(f)(1)?

5. Will completion of the project proposed by Oncor in this docket accomplish the intended result for the CREZ project designated as "Willow Creek to Hicks double-circuit 345-kV" in the CREZ Transmission Plan and ordered by the Commission in Docket Nos. 37902 and 36802?

[3] *See Application of Wood County Electric Cooperative, Inc. for a Certificate of Convenience and Necessity for a Proposed Transmission Line in Wood County, Texas*, Docket No. 32070, Order on Appeal of Order No. 8 at 6 (Nov. 1, 2006).

6. Which proposed transmission line route is the best alternative, weighing the factors set forth in PURA § 37.056(c)(4), excluding (4)(E), and P.U.C. SUBST. R. 25.101(b)(3)(B)?

7. Are there alternative routes or facilities configurations that would have a less negative impact on landowners? What would be the incremental cost of those routes?

8. If alternative routes or facility configurations are considered due to individual landowner preference:

   a. Have the affected landowners made adequate contributions to offset any additional costs associated with the accommodations?

   b. Have the accommodations to landowners diminished the electric efficiency of the line or reliability?

9. Has Oncor proposed modifications to the transmission improvements described in the CREZ order? If so,

   a. Would such improvements reduce the cost of transmission or increase the amount of generating capacity that transmission improvements for the CREZ can accommodate?[4]

   b. Would such modifications speed up the project's implementation timeline, achieve other technical efficiencies, or otherwise be cost-effective and consistent with the CREZ Transmission Plan?[5]

[4] P.U.C. SUBST. R. 25.174(d)(9).
[5] Docket No. 37902, Order on Remand at 52, Finding of Fact No. 166

c. Have all such modifications been submitted to the Electric Reliability Council of Texas (ERCOT), and has ERCOT made a recommendation to Oncor to be filed in this proceeding?[6]

10. Are there discrepancies between the estimated total cost included in the CCN application in this docket and the cost identified for the proposed project in the CREZ Transmission Plan?[7] If so, what are the reasons for the discrepancies?

11. On or after September 1, 2009, did the Texas Parks and Wildlife Department provide any recommendations or informational comments regarding this application pursuant to section 12.0011(b) of the Texas Parks and Wildlife Code? If so, please address the following issues:

a. What modifications, if any, should be made to the proposed project as a result of any recommendations or comments?

b. What conditions or limitations, if any, should be included in the final order in this docket as a result of any recommendations or comments?

c. What other disposition, if any, should be made of any recommendations or comments?

d. If any recommendation or comment should not be incorporated in this project or the final order, or should not be acted upon, or is otherwise inappropriate or incorrect in light of the specific facts and circumstances presented by this application or the law applicable to contested cases, please explain why that is the case.

[6] *Id.* at 52, Finding of Fact Nos. 67-70.

[7] The CREZ Transmission Plan, developed by the Commission in Docket No. 33672 (*Commission Staff's Petition for Designation of Competitive Renewable-Energy Zones*, Docket No. 33672 (Oct. 7, 2008)), is based on the ERCOT CREZ Transmission Optimization Study, Scenario 2.

Q. Which issues in this proceeding have you addressed in your testimony?

A. I have addressed all of the above eleven issues and the requirements of PURA §§ 37.056(c)(3), 37.056(c)(4) and P.U.C. SUBST. R. §25.101.

Q. What information did you consider during the preparation of your conclusions and recommendations?

A. I have evaluated the Application and its attachments, including Attachment 1, the Environmental Assessment and Alternative Route Analysis (EA) prepared for Oncor by Power Engineers, Inc. (PEI). I reviewed the Direct Testimonies and/or Statements of Position filed in this proceeding by or on behalf of Oncor and the intervenors, as well as responses to Requests For Information (RFIs) provided by them. I have also reviewed a letter from the Texas Parks and Wildlife Department (TPWD) to Mr. Brian Almon dated August 13, 2010.[8]

III. CONCLUSIONS AND RECOMMENDATIONS

Q. Based on your evaluation of Oncor's application and other relevant material, what conclusions have you reached regarding Oncor's application and the proposed transmission line?

1. I conclude that the Application adequately addresses the issues identified in the CREZ CCN application form..
2. I conclude the application complies with P.U.C PROC. R. 22.52(a).

[8] Attachment ML-3

3. I conclude that the applicant met the filing requirements set forth in P.U.C. SUBST. R. 25.216 (g)(2) and (3) by filing a completed CREZ application form and by providing direct testimony with the application.

4. I conclude that this application was submitted in compliance with Docket Nos. 37902 and 36802 designating it as a CREZ Transmission Plan Facility. No party has asserted the position that the Commission should revoke the CREZ Facility designation.

5. I conclude that the completion of the project proposed by Oncor in this docket will accomplish the intended result for the CREZ subsequent line project designated as "Willow Creek to Hicks double- circuit 345-kV" in the CREZ Transmission Plan and ordered by the Commission in Docket Nos. 37902 and 36802.

6. I conclude that Route 64 is the best alternative when weighing the factors set forth in PURA § 37.056(c)(4), excluding (4)(E), and in P.U.C. SUBST. R. 25.101(b)(3)(B).

7. I conclude that no alternative routes or facilities configurations that would have a less negative impact on landowners have been proposed by any party or are evident from my analysis of the Application. .

8. I conclude that while alternative routes or facility configurations may have been considered by Oncor due to individual landowner preference, no such alternatives have been incorporated into Route 64.

9. I conclude that Oncor proposed one significant modification to the transmission improvements described in the CREZ order. The proposed change was reviewed

by ERCOT which deemed it to be cost-effective and consistent with the intent of the CTO Study and recommended that it be implemented.[9]

10. I conclude that there is a difference between the estimated total project costs including substation costs identified in the CCN application in this docket ($92,860,000 - $118,620,000 depending on the route and $97,590,000 for Oncor's preferred Route 222)[10] and the estimated total cost identified in the ERCOT CTO study for the project ($93,280,000).[11] Specifically, Oncor's total cost estimate for the proposed project ranges from approximately 0.5% less to 27.2% greater than the CTO Study total cost estimate (depending on route) and is approximately 4.6% greater than the CTO Study total cost estimate for the proposed project constructed on Route 222.

11. I conclude that the Texas Parks and Wildlife Department provided recommendations and informational comments regarding this application and that the mitigation measures provided in items 2, 3 4, and 7 on Pages 13-14 of my testimony will address most of TPWD's concerns. Based on my experience in the electric utility industry and my experience evaluating CCN applications while employed by the Commission, I also conclude that Oncor has the resources and the procedures in place for accommodating the recommendations and comments provided by TPWD.

Q. What recommendation do you have regarding this application?

[9] Application, Attachment 2, ERCOT letter to Oncor dated June 3, 2010.
[10] Derived from information provided in Application, Attachment 3 and Question 13.
[11] The CTO estimate was $58,280,000 (31 miles @ $1.88M/mile) and $25,000,000 for the Hicks substation.

A. I recommend that the Commission approve Oncor's application for a CCN to construct a new double-circuit 345 kV transmission line from Oncor's existing Willow Creek substation to Oncor's new Hicks substation. I also recommend that the Commission order Oncor to (1) construct the proposed project on Route 64 as described in the application, (2) comply with the reporting requirements of P.U.C. SUBST. R. 25.83, and (3) file in P.U.C. Project No. 37858 information pursuant to Subst. R. 25.216(f) and the Order on Rehearing in Docket No. 35665. I further recommend that the Commission include in its Order the following paragraphs to mitigate the impact of the proposed project:

1. In the event Oncor or its contractors encounter any archeological artifacts or other cultural resources during project construction, work shall cease immediately in the vicinity of the resource and the discovery shall be reported to the Texas Historical Commission (THC). Oncor shall take action as directed by the THC.

2. Oncor shall follow the procedures outlined in the following publications for protecting raptors: *Suggested Practices for Avian Protection on Power Lines, The State of the Art in 2006*, Avian Power Line Interaction Committee (APLIC), 2006, and the *Avian Protection Plan Guidelines* published by APLIC in April, 2005.

3. Oncor shall exercise extreme care to avoid affecting non-targeted vegetation or animal life when using chemical herbicides to control vegetation within the ROW.

4. Oncor shall minimize the amount of flora and fauna disturbed during construction of the proposed transmission line, except to the extent necessary to establish appropriate right-of-way clearance for the transmission line. In addition, Oncor shall revegetate using native species and shall consider landowner preferences in

doing so. Furthermore, to the maximum extent practicable, Oncor shall avoid adverse environmental impacts to sensitive plant and animal species and their habitats as identified by TPWD[12] and USFWS.[13]

5. Oncor shall implement erosion control measures as appropriate. Also, Oncor shall return each affected landowner's property to its original contours and grades unless otherwise agreed to by the landowner.

6. Oncor shall cooperate with directly affected landowners to implement minor deviations in the approved route to minimize the impact of the proposed transmission line. Any minor deviations to the approved route shall directly affect only landowners that received notice of the transmission line in accordance with P.U.C PROC. R. 22.52(a)(3) and that have agreed to the minor deviations.

7. Oncor shall work with TPWD and install bird flight diverters on the conductors of the project on Link PPPP as recommended by TPWD to mitigate the potential negative impacts of the project on migratory birds, including waterbirds and waterfowl, as described by TPWD in Attachment ML-3.

Q. Does your recommended route differ from the one preferred by Oncor?

A. Yes, Oncor's Preferred Route is Route 222. I will discuss the reasons for my recommendation of Route 64 later in my testimony.

[12] Attachment ML-3and EA, Appendix A, pages A149-A161 .
[13] EA Appendix A pages A-223 through A-228.

IV. PROJECT JUSTIFICATION

A. DESCRIPTION OF THE PROJECT

Q. Please describe the proposed project.

A. The project as proposed by Oncor consists of the design and construction of a new double-circuit 345 kV transmission line on lattice steel structures from Oncor's existing Willow Creek substation in Wise County to Oncor's new Hicks substation in Tarrant County. New facilities required to terminate both circuits will be installed by Oncor at its existing Willow Creek substation as part of the proposed project. Construction of Oncor's new Hicks station is included in Oncor's application as part of this project.[14]

Q. Does Oncor's Application contain a number of alternative routes sufficient to conduct a proper evaluation?

A. Yes. Oncor's Application identified 664 possible routes and proposed 95 of them as alternative routes for the proposed project. The process employed by Oncor for selecting the 95 proposed alternative routes from among the 664 possible routes is briefly discussed in Attachment 4 to the Application. A tabular listing of the proposed alternative routes and included routing links and a description of each identified routing link are included in Attachment 6 to the Application.

Q. What are the lengths of the proposed alternative routes?

A. The lengths of the proposed alternative routes range from 40.2 miles (Route 250, the shortest route) to 49.4 miles (Route 553 the longest route), and the length of Route 64 (my recommended route) is 42.2 miles. This information may be found Table 2 of Attachment 4 to the application (Table 2) which was initially omitted from Oncor's

application but which was filed by Oncor on June 16, 2010 in this docket and is included herein as Attachment ML-4.

Q. Is the proposed project located within the incorporated boundaries of any municipality?

A. Portions of one or more routes are located within the boundaries of the cities of Aurora, Azle, Fort Worth, Haslet, Newark, New Fairview, Reno, and Rhome.[15]

Q. Does any part of this project lie within the Texas Coastal Management Program (TCMP) boundary?

A. No.[16]

B. NEED FOR THE PROJECT

Q. Are the proposed facilities necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA § 37.056(a) taking into account the factors set out in PURA § 37.056(c)?

P.U.C. SUBST. R. 25.174(c)(5) removes consideration of the need for additional service from consideration in CCNs for CREZ transmission projects, therefore I will not address the need for the proposed project.

Q. What effect, if any, will the proposed project have on the goal established by PURA § 39.904(a)?

A. That section of PURA relates to the Texas Legislature's goal for increased use of renewable energy sources and the proposed project will directly serve to meet that goal.

[14] Application, Questions 4 and 13.
[15] Application, Question 10.
[16] Application, Question 26.

C. MODIFICATIONS TO THE CTO STUDY

Q. Please describe any modifications made by Oncor to the scope of work for this project as contemplated in the CTO Study submitted by ERCOT in P.U.C. Docket 33672.[17]

A. Oncor proposed one significant modification to the transmission improvements described in the CTO Study. Oncor proposed to utilize 2-1926 kcmil Aluminum Conductor Steel Supported (ACSS) conductors for the proposed project instead of 2-1433 kcmil ACSS conductors. ERCOT subsequently reviewed that modification and deemed it to be cost-effective and consistent with the intent of the CTO Study and recommended that it be implemented.[18]

V. ROUTING

A. STAFF RECOMMENDATION

Q. What is your final route recommendation considering all factors, including the factors set forth in PURA §§ 37.056(c)(3), 37.056(c)(4) and P.U.C. SUBST. R. 25.101(b)(3)(B)?

A. After analyzing all the factors that the Commission must consider under PURA § 37.056 and P.U.C. SUBST. R. 25.101, I recommend that Route 64 be approved for the proposed project. The basis for my recommendation is discussed in more detail in the remainder of my testimony.

Q. Which route did Oncor select as the preferred route?

[17] *Commission Staff's Petition for Designation of Competitive Renewable-Energy Zones*, Docket No. 33672, Order on Rehearing (Oct. 6, 2008).
[18] Application, Question 4 and Attachment 2.

A. Oncor selected Route 222 as the preferred route.[19]

B. COMMUNITY VALUES

Q. Has Oncor sought input from the local community regarding community values?

A. Yes. Oncor published notice of the proposed project in local newspapers as required by P.U.C. PROC. R. 22.52(a)(1).[20] Oncor provided written notice of the proposed project to county and municipal officials as required by P.U.C. PROC. R. 22.52(a)(2)[21] and to affected landowners as required by P.U.C. PROC. R. 22.52(a)(3).[22] Oncor also held two open house meetings pursuant to P.U.C. PROC. R. 22.52(a)(4).[23] The meetings were held in the towns of Rhome (110 registered attendees) and Springtown (198 registered attendees).[24] At the open house meetings questionnaires were provided for each attendee to return.[25] I conclude that Oncor provided adequate notice and adequate means by which members of the community could express concerns via the open house meetings.

Q. Did members of the community who attended the open houses express concerns about the proposed project?

A. Yes they did by providing comments and completed questionnaires to Oncor at the open houses or subsequently by submitting letters by mail. Question 16 of the Application and Section 5.0 of the EA describe the open house meetings and contain discussions and/or summaries of the attendee's comments and questionnaire responses.

[19] Application, Attachment 4, page2/5.
[20] Application, Question 23.
[21] Ibid.
[22] Ibid.
[23] Application, Question 16.
[24] Ibid.
[25] EA, Section 5.0

Q. In your opinion, would construction of the proposed project on Route 64 mitigate the concerns expressed by members of the community at the open houses?

A. In my opinion, construction on Route 64 would tend to mitigate the general concerns expressed by the community at the open houses (as summarized in Section 5 of the EA) about as well as would construction on the other alternative routes. Questionnaire responses submitted at and subsequent to the open houses indicated general community concerns regarding possible impacts of the proposed project on views, residential areas, and existing homes.[26] Possible adverse health effects and devaluation of property were also mentioned as concerns.[27] I will specifically address recreational and park areas, historical values, aesthetic values, environmental integrity, engineering constraints, costs, moderation of impact on the affected community and landowners, right-of-way, and prudent avoidance in more detail later in my testimony.

Q. Are there any electronic installations located near any of the proposed routing links?

A. There are no commercial AM radio transmitters located within 10,000 feet of any of the proposed routing links.[28] There are sixteen communication towers located within 2,000 feet of various links/routes.[29] In my opinion the locations of the communications towers do not lessen the viability of any of the proposed alternative routes.

Q. Are there any airfields, airstrips or heliports located in the study area?

A. Five FA-registered airfields with one or more runways greater than 3,200 feet in length are located within 20,000 feet of various possible routing links, and seven

[26] Ibid.
[27] Ibid.
[28] Application, Question 20.

FA-registered airfields with no runway greater than 3,200 feet in length are located within 10,000 feet of various possible routing links. Four private airstrips are located within 10,000 feet of various possible routing links. One heliport is located within 5,000 feet of various possible routing links. The response to Question 21 of the Application and Section 7.7.5 of the EA contain a discussion of all airports, airstrips, and heliports located near proposed alternative routing links. In my opinion the locations of the aviation facilities do not lessen the viability of any of the proposed alternative routes.

C. RECREATIONAL AND PARK AREAS

Q. Are any parks or recreational areas located within 1,000 feet of the centerline of any of the alternative routes?

A. Yes, two such areas are located within 1,000 feet of all proposed alternative routes utilizing Link PPP. Oncor's response to Question 24 of the Application describes the two areas. Route 64 (my recommended route) does not impact either of those areas.

D. HISTORICAL VALUES

Q. Are there possible impacts from the proposed project on archeological and historical values, including known cultural resources crossed by any of the alternative routes or that are located within 1,000 feet of the centerline of any of the alternative routes?

A. Yes. Many of the proposed alternative routes cross or pass within 1,000 feet of one or more recorded cultural resource sites and cross areas of high potential (HPA) for the

[29] Ibid.

location of prehistoric and historic archaeological sites.[30] Route 64 does not cross any such site, passes within 1,000 feet of one such site, and crosses areas of HPA.[31] Various proposed alternative routes/links pass within 1,000 feet of property containing an historic resource/site.[32] None of the historic sites are listed in the National Register of Historic Places (NHRP).[33] Oncor's response to Question 25 in the Application provides identification and locations of the recorded sites crossed by or located within 1,000 feet of proposed alternative routes. If any archeological or cultural resources are found during construction, Oncor should immediately cease work in the vicinity of the resources and notify the THC immediately to determine what appropriate actions should be taken.

E. AESTHETIC VALUES

Q. What do you consider the aesthetic factors to be as they relate to this case?

A. Although the portion of the study area traversed by the proposed alternative routes is generally rural and/or agricultural in nature with some wooded areas, it contains municipalities, residential areas and developments, other homes, businesses, some industrial and oil and gas development, and existing roadways. In my opinion, the aesthetic factors in this case are the visual impacts on local area residents and persons traveling through the area of the proposed transmission facilities juxtaposed with the existing surroundings including homes, businesses, and the local terrain and scenery.

Q. In your opinion, which of the proposed alternative routes would result in a negative impact on aesthetic values and which portions of the study area will be affected?

[30] Attachment ML-4
[31] Ibid.
[32] Application, Question 25.
[33] Ibid.

A. It has been my experience that residents and landowners in rural and residential areas generally find the visual aspects of transmission lines to be intrusive and undesirable. Therefore, in my opinion all of the proposed alternative routes would result in a negative impact on aesthetic values, and I therefore conclude that aesthetic values would be negatively impacted throughout the study area.

Q. In your opinion, how would the negative impact on aesthetic values of construction on Route 64 compare to the negative impact on aesthetic values of construction on the other proposed alternative routes?

A. The number of habitable structures identified as being within 500 feet of the proposed alternative routes varies from 45 to 291, and the number within 500 feet of Route 64 is 74.[34] The total length of Route 64 within the foreground visual zone (one-half mile unobstructed) of roads and recreational areas is approximately 2.9 miles,[35] which is more than the corresponding number for some of the proposed alternative routes and less than the corresponding number for other of the proposed alternative routes. It is my opinion that construction on Route 64 would generally have no more of a negative impact on aesthetic values than construction on the other alternative routes.

F. ENVIRONMENTAL INTEGRITY

Q. Please provide a general description of the area traversed by the proposed routes.

A. The land area traversed by the alternative routes is, in part, a rural area with wooded areas intermixed with grasslands and semi-cleared to cleared agricultural and pasture/grazing land. Industrial development and oil and gas production installations occur in the area.

[34] Attachment ML-4.
[35] Ibid. (calculated from distances shown in feet).

Residential uses are present around several towns and communities and otherwise scattered throughout the area and along roadways. A general description of the area and discussion of land uses can be found in Question 6 of the application and Section 3.8 of the EA.

Q. What was involved in your analysis of the environmental impact of the proposed project?

A. I reviewed the information provided in the Application (including the EA), the direct testimonies and/or statements of position of Oncor and the intervenors, and a letter from the Texas Parks and Wildlife Department (TPWD) to Mr. Brian Almon dated August 13, 2010.[36]

Q. Have other parties presented information concerning the environmental impacts of the proposed project?

A. Yes. Various intervenors, in their respective testimonies or statements of position, discuss what they believe to be potential impacts of the proposed project to the environment and/or wildlife.

Q. Has TPWD presented information concerning the potential negative impacts of the proposed project on the environment and/or wildlife in the study area?

Yes. In its letter of August 13, 2010 TPWD discusses various environmental considerations and states that Route 222 (Oncor's preferred route) is reasonable in consideration of several factors listed in the letter. A comparison of those listed factors as applied to both Routes 64 and 222 (see ML-4) shows that Route 64 is almost identical to Route 222 in those regards. However, the TPWD letter also recommends avoiding

routes utilizing Link PPPP due its close proximity to the upstream portion of Eagle Mountain Lake containing riparian habitat which may attract migratory birds, including waterbirds and waterfowl. The letter further recommends that bird flight diverters be used to mark the conductors of the project if routes utilizing PPPP are utilized. I consider this recommendation to be reasonable and, since Route 64 utilizes Link PPPP, I have included it with my other recommendations previously presented in my testimony.

Q. What do you conclude regarding whether construction of the proposed project could present a potential negative impact to the local environment and/or wildlife?

A. Based on the information I have referenced above and my experience in the electric utility industry I conclude that construction of the proposed project could possibly present some potential negative impact to the local environment and/or wildlife. However, in my opinion any such potential negative impacts could be mitigated if, during construction of the proposed project, Oncor employed design and construction practices and techniques that are usual and customary in the electric utility industry.

Q. In your opinion how would construction of the proposed project on Route 64 compare from an environmental perspective to construction on the other alternative routes?

A. If my recommendations are followed, in my opinion, based on a comparison of the environmental factors identified in the EA and by TPWD, construction of the proposed project on Route 64 would be as preferable from an overall environmental perspective as construction on Route 222 and the other proposed alternative routes.

[36] Attachment ML-3.

G. ENGINEERING CONSTRAINTS

Q. Are there any possible engineering constraints associated with this project?

A. Yes. Some of the proposed alternative route would require construction through areas of oil and gas production and each proposed route would require crossings of major waterways and numerous state or US highways and local roadways. Larger than average structures and span lengths might be required to accommodate waterway and roadway crossings. Additionally, construction of the proposed project on some routes might require minor route deviations to accommodate existing oil or gas wells and specialized techniques for protection of pipelines. In my opinion these possible constraints are not severe or uncommon and can be adequately addressed by using design and construction practices and techniques usual and customary in the electric utility industry.

H. COSTS

Q. What is Oncor's estimated cost of constructing the proposed project on each of the proposed alternative routes?

A. Attachment 3 to Oncor's Application provides a breakdown of estimated costs of construction of the transmission line and substation portions of the proposed project on each of the proposed alternative routes. Oncor's response to Question 13 of the Application provides that information for the Preferred Route (222). As can be determined from Attachment 3 to the Application, the cost for construction of the transmission line on the proposed alternative routes varies by route from a minimum of $73,980,000 to a maximum of $99,740,000 (substation costs are the same for all routes). The estimated cost of transmission line construction for Route 64 is $77,860,000 and for

Route 222 is $78,710,000. The estimated cost of both routes falls into the lower end of the range identified above.

Q. Do Oncor's estimated costs of constructing the proposed transmission line appear to be reasonable?

A. The reasonableness of the final installed cost of the completed project will be determined at a future date as part of an Oncor Transmission Cost of Service (TCOS) proceeding.

I. MODERATION OF IMPACT ON THE AFFECTED COMMUNITY AND LANDOWNERS

Q. Do the Commission's rules address routing alternatives intended to moderate the impact on landowners?

A. Yes. P.U.C. SUBST. R. 25.101(b)(3)(B) provides that "the line shall be routed to the extent reasonable to moderate the impact on the affected community and landowners unless grid reliability and security dictate otherwise."

Q. Subsequent to filing its Application, has Oncor made or proposed any routing adjustments to accommodate landowners?

A. Not to my knowledge.

Q. Has Oncor proposed any means to reduce the impact on landowners of acquiring new ROW for the proposed project?

A. Not to my knowledge.

Q. Has Oncor proposed any means to reduce the impact of the proposed project on landowners or the affected community other than addressing the requirements of P.U.C. SUBST. R. 25.101(b)(3)(B)?

A. Not to my knowledge.

Q. Has Oncor proposed any specific means by which it will moderate the impact of the proposed project on landowners or the affected community other than adherence to the Commission's orders, the use of good utility practices, acquisition of and adherence to the terms of all required permits, and what you have discussed above?

A. Not to my knowledge.

J. RIGHT-OF-WAY

Q. Do the Commission's rules address routing along existing corridors?

A. Yes. P.U.C. SUBST. R. 25.101(b)(3)(B) provides that the following factors are to be considered:

(i) whether the routes utilize existing compatible rights-of-way, including the use of vacant positions on existing multiple-circuit transmission lines;

(ii) whether the routes parallel existing compatible rights-of-way;

(iii) whether the routes parallel property lines or other natural or cultural features; and

(iv) whether the routes conform with the policy of prudent avoidance.

1. USE OF EXISTING COMPATIBLE RIGHT-OF-WAY

Q. Please describe how Oncor proposes to use existing compatible ROW for the proposed project.

A. None of the proposed alternative routes use existing compatible ROW.

2. PARALLELING OF EXISTING COMPATIBLE RIGHT-OF-WAY AND PROPERTY LINES

Q. Please describe how Oncor proposes to parallel existing compatible ROW and property boundaries for the proposed project.

A. Each proposed alternative route parallels some amount of existing corridors (property boundaries and existing compatible ROW consisting of some combination of existing transmission lines, roadways, railroads, and pipelines). The percentage of each route's length that parallels existing corridors varies from approximately 47 percent to 67 percent.[37] The percentage of Route 64 that does so is approximately 55 percent and the percentage of Route 222 that does so is also approximately 55 percent.[38] A breakdown of the length of property boundaries and the length and type of existing compatible ROW paralleled by each proposed alternative route is shown in ML-4.

3. PARALLELING OF NATURAL OR CULTURAL FEATURES

Q. Please describe how Oncor proposes to parallel natural or cultural features for the proposed project.

A. None of the proposed alternative routes parallel cultural features. Each of the proposed alternative routes parallel streams within a distance of 100 feet for distances ranging from

[37] Attachment ML-4.

0.88 miles to 2.61 miles.[39] No other significant natural features are paralleled by any of the routes.

K. PRUDENT AVOIDANCE

Q. Please define prudent avoidance.

A. Prudent avoidance is defined by P.U.C. SUBST. R. 25.101(a)(4) as follows: "The limiting of exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort."

Q. How can exposure to electric and magnetic fields (EMF) be limited when routing transmission lines?

A. Primarily by proposing alternative routes that would minimize, to the extent reasonable, the number of habitable structures located in close proximity to the routes.

Q. How many habitable structures are located in close proximity to each of the proposed alternative routes?

A. Attachment ML-4 provides a listing of the number of habitable structures within 500 feet of each of the proposed alternative routes, and that number varies from 45 to 291. The number of habitable structures within 500 feet of Routes 64 and 222 are 74 and 51 respectively.

Q. Do you consider the number of habitable structures in close proximity to Route 64 to be acceptable when compared to the number in close proximity to the other proposed alternative routes?

A. Yes.

[38] Ibid.

Q. Do you conclude that Oncor proposed alternative routes that minimized, to the extent reasonable, the number of habitable structures located in close proximity to the routes?

A. Yes.

VI. CONCLUSION

Q. In your opinion, is any one of the proposed alternative routes better than all of the other routes in all respects?

A. No.

Q. If no proposed alternative route is better than all of the others in all respects, why have you recommended Route 64 instead of one of the other routes?

A. In my opinion the most appropriate route would be one that, to the extent reasonable, best mitigates the impacts to affected landowners and ERCOT ratepayers, and I conclude that Route 64 is the most appropriate route to achieve both of those goals.

Q. What, in your opinion, are the most significant characteristics of proposed routes that will generally tend to mitigate the impacts to affected landowners?

A. Shorter routes impact less land and generally fewer landowners than do longer routes. Routes paralleling larger amounts of compatible ROW containing existing infrastructure (transmission lines, roadways, railroads, pipelines, etc.) generally impact landowners less than do routes paralleling smaller amounts of such ROW or routes not paralleling existing ROW/infrastructure. Routes not paralleling compatible ROW containing existing infrastructure but paralleling property lines generally impact landowners less

[39] Ibid. (calculated from distances shown in feet).

than do such routes not paralleling property lines and crossing the interiors of properties. Routes paralleling pipelines are paralleling existing infrastructure with easements, and as such present somewhat less impact to landowners than do routes crossing previously undisturbed property. However, pipelines usually exhibit little above-ground infrastructure and very often cross through the interiors of properties. Routes paralleling pipelines, therefore, are sometimes viewed by landowners as less preferable than routes paralleling property boundaries. Routes passing in close proximity to small numbers of habitable structures generally affect fewer people/landowners than routes passing in close proximity to large numbers of habitable structures.

Q. What, in your opinion, are the characteristics of proposed routes that will generally tend to mitigate the impacts to ERCOT ratepayers?

A. Routes for which the cost of the line is lower as opposed to routes for which the cost is higher.

Q. Did you evaluate the characteristics of Oncor's proposed routes as described above in your testimony to reach your conclusion that Route 64 is, to the extent reasonable, the proposed route that best mitigates the impacts to affected landowners and ERCOT ratepayers?

A. Yes.

Q. How did you conduct your evaluation?

A. I examined the data regarding Oncor's proposed routes presented in Table 2 of Attachment 4 to the application which was initially omitted from Oncor's application but which was filed by Oncor on June 16, 2010 in this docket and is included herein as Attachment ML-4. My intent was to identify a subset of the 95 proposed routes in which

the routes were (1) reasonably short and less costly than others, (2) paralleled existing compatible ROW/corridors (including apparent property lines) for a large portion of the route, and (3) passed within close proximity of a reasonably low number of habitable structures. After I identified such a subset, I further examined the data in ML-4 for each of the routes in the subset to determine the distance that each route paralleled existing transmission lines, roadways, railroads, pipelines, and apparent property boundaries. I also examined the data in ML-4 to be sure that none of the data indicated any possible concerns that might reasonably preclude further consideration of the routes in the subset. After that further examination, my opinion was that Routes 46, 59, 64, and 268 were the four routes that best exhibited an overall blend of the characteristics I have described above for mitigating impacts to affected landowners. I then made detailed comparisons of the data in ML-4 for those four routes and determined that, in my opinion, Route 64 was the most appropriate of the four routes for construction of the proposed project and was the route that I would recommend.

Q. What did your evaluation reveal regarding how Routes 46, 59, 64, and 268 compare to each other when considering the data in ML-4 regarding the paralleling or not paralleling of existing corridors (including apparent property boundaries)?

A. Attachment ML-5 to my testimony is a portion of ML-4 showing the data only for Routes 46, 59, 64, 268 (the four routes) and Route 222 (Oncor's Preferred Route). I have added lines 0, 3a, and 9a showing the estimated cost of transmission line construction, percentage of route parallel and adjacent to existing transmission lines, and total length of route <u>not</u> parallel to existing corridors (including apparent property boundaries) for each of the five routes noted above. The cost data in line 0 was taken from Attachment 3 to

Oncor's application and the data in lines 3a and 9a was calculated by me from the data provided in ML-4.

The following discussion is based on data in ML-5. Route 64 is generally comparable in length to the other routes and parallels the greatest percentage of existing corridors (including apparent property boundaries) of the four routes. Route 64 parallels the greatest amount of existing transmission lines of the four routes and the least amount of roadways. Route 64 parallels approximately the same amount of property boundaries as do Routes 59 and 268 but considerably less than does Route 46. Route 64 parallels approximately the same amount of pipeline ROW as do Routes 59 and 268 but considerably less than does Route 46. Of the four routes, Route 64 crosses the least total amount of property not parallel to existing corridors (including apparent property boundaries). Each of the four routes parallels the same amount of existing railroad ROW.

Q. What did your evaluation reveal regarding how Routes 46, 59, 64, and 268 compare to each other when considering the other data in ML-5?

A. The four routes were generally comparable to each other in all other aspects not discussed above, including environmental and aesthetic aspects, cost, and the number of habitable structures in close proximity to the centerline. Each of the four was slightly preferable to the others in some aspects. Overall, I saw no significant differences.

Q. Why do you recommend Route 64 as the most appropriate of routes 46, 59, 64, and 268 to mitigate impacts to landowners?

A. In my opinion, Route 64 will better mitigate the impacts to landowners because

1. Route 64 parallels the greatest percentage and the greatest length of existing corridors (including property boundaries) of the four routes and it does so while following existing transmission lines to a significantly greater extent than do the other three routes. Moreover, Route 64 does so without relying heavily on paralleling apparent property boundaries without existing infrastructure.
2. The amount of Route 64 that does not parallel existing corridors (including property boundaries) is less than that of the other three routes. In other words, Route 64 "bisects" fewer feet of properties than do the other three routes.
3. Route 64 passes in close proximity to slightly fewer habitable structures than do the other three routes.
4. Route 64 is the second-least-costly of the four routes. Its estimated cost is $77,860,000 which is only $1,270,000 (1.7%) more than that of the least-costly of the four routes (Route 268).
5. Overall Route 64, in my opinion, is as preferable as the other three routes in any other aspect reflected by the data in ML-5.

Q. Why do you believe that Route 64 is more appropriate than Route 222 (Oncor's Preferred Route) to mitigate impacts to landowners?

A. I used ML-5 to compare Route 222 to Route 64 in a manner similar to that described above in my testimony. That comparison clearly showed that Route 222 was slightly longer and more expensive, paralleled a much lesser amount of existing transmission lines, and a much greater amount of pipelines and apparent property boundaries. All of those factors, in my opinion, demonstrate that Route 222 is less appropriate than Route 64 to mitigate impacts to landowners. Although Route 222 passes in close proximity to

fewer habitable structures than does Route 64, that fact is not sufficient to cause me to consider Route 222 as being more appropriate than Route 64.

Q. In your opinion, if the Commission considered the criteria of PURA and the Commission's Substantive Rules in a way that favored any of the other proposed alternative routes over Route 64, do you believe those other proposed alternative routes are viable?

A. Yes. In my opinion all ninety-five of the proposed alternative routes are viable.

Q. Does this conclude your testimony?

A. Yes.

ATTACHMENT ML-1

QUALIFICATIONS

OF

MICHAEL J. LEE

I received a Bachelor of Science in Electrical Engineering from the University of Texas in 1965. After receiving my engineering degree, I studied mathematics at UT as both an undergraduate and graduate student, but I did not complete a graduate degree program. I have attended seminars, symposiums, conferences, and workshops covering the design, operation, and maintenance of electric transmission systems.

In 1969 I was employed with Texas Instruments (Austin, Texas) as a design engineer, and in 1973 I joined the Texas Air Control Board as a stack sampling engineer. In 1974 I was employed with the Lower Colorado River Authority (Austin, Texas) as an engineer in the Communications and Remote Control Section of the Transmission Engineering Department, and I continued my employment with LCRA until 2001.

My initial duties at LCRA included the system design and preparation of equipment specifications required to implement a communications and control system which would provide remote monitoring and control of the LCRA transmission network. These systems incorporated microwave radio, power line carrier, telemetering, voice communication, and SCADA equipment which were installed in transmission substations and power plants. In 1977 I assumed the position of Supervisor of the Section and continued in that position until 1988. In 1988 I was made Supervisor of the Customer Contracts Section in Transmission Engineering, in which position I prepared, reviewed, and evaluated contracts and agreements with LCRA's wholesale electric customers, other electric transmission utilities, consulting engineering firms, and various contractors.

In 1995 I was assigned as a staff support engineer to LCRA's Transmission Maintenance Department and I continued in that position until my retirement in 2001. I was responsible for preparation of maintenance procedures and guidelines, equipment failure analysis, investigation of operational problems, and general technical support for transmission field operations, maintenance, and construction personnel. For two years I was the primary contact person at LCRA for maintenance and operational problems relating to LCRA's first interconnection with a wind power IPP.

I was briefly employed by The University of Texas (Austin, Texas) in 2001 as Manager of Electrical Maintenance in the Utilities Department. I began my employment with the Public Utility Commission of Texas in March, 2004 as an Electric Utility Engineer.

I am a registered Professional Engineer in the State of Texas (Certificate Number 76846).

ATTACHMENT ML-2

LIST OF PUCT DOCKETS CONTAINING TESTIMONY OF

MICHAEL J. LEE

Docket No.	Docket Description
29196	Application of Southwestern Electric Power Company for Approval of Reconciliation of Purchase Power and Conservation Program Costs
30254	Application of Wood County Electric Cooperative, Inc. for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line in Wood, County, Texas
30617	Application of CenterPoint Energy Houston Electric, LLC for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Brazoria County, Texas
31591	Application of CenterPoint Energy Houston Electric, LLC for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Fort Bend, Wharton, and Brazoria Counties, Texas
32018	Notice of Violation by TXU Electric Delivery of PURA §38.005, Relating to Electric Service Reliability Measures, and P.U.C. Subst. R. 25.52, Relating to Reliability and Continuity of Service
32707	Application of Rayburn Country Electric Cooperative, Inc. for a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Henderson and Van Zandt Counties, Texas
34440	Application of Oncor Electric Delivery Company to Amend a Certificate of Convenience and Necessity (CCN) for a Proposed Transmission Line within Bell and Williamson Counties, Texas
35460	Petition of PNM Resources, Inc. and Cap Rock Energy Corporation Regarding Proposed Merger and Acquisition of Stock

35665	Commission Staff's Petition for the Selection of Entities Responsible for Transmission Improvements Necessary to Deliver Renewable Energy from Competitive Renewable Energy Zones
37463	Application of Oncor Electric Delivery Company LLC to Amend Its Certificate of Convenience and Necessity for a Proposed CREZ 345 kV Transmission Line in Bell, Burnet, and Lampasas Counties, Texas
37530	Application of Oncor Electric Delivery Company LLC to Amend Its Certificate of Convenience and Necessity for a Proposed CREZ 345 kV Transmission Line in Bell, Burnet, and Lampasas Counties, Texas
36978	Application of Electric Transmission Texas, LLC to Amend a Certificate of Convenience and Necessity to Construct a Proposed Uvalde to Castroville 138 KV Transmission Line within Uvalde and Medina Counties, Texas
37956	Application of Cross Texas Transmission, LLC for a Certificate of Convenience and Necessity for the Gray to Tesla 345 KV Transmission Line (Formerly Panhandle BB to Tesla) in Gray, Wheeler, Donley, Collingsworth, Hall, and/or Childress Counties

ATTACHMENT ML-3

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Carter P. Smith
Executive Director

August 13, 2010

Mr. Brian Almon, P.E.
Public Utility Commission of Texas
P.O. Box 13326
Austin, TX 78711-3326

RE: Oncor Electric Delivery Company, LLC. (Oncor), Willow Creek to Hicks 345 kilovolt (kV) Transmission Line Project, (PUC Docket No. 38324) Denton, Parker, Tarrant, and Wise Counties

Dear Mr. Almon:

Texas Parks and Wildlife Department (TPWD) received the seven-volume application to amend a Certificate for Convenience and Necessity (CCN) inclusive of Attachment 1 Environmental Assessment and Alternative Route Analysis (EA) regarding the above-referenced proposed transmission line, which is part of the Competitive Renewable Energy Zones (CREZ) Scenario 2 Transmission Plan.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency on or after September 1, 2009 may be required by state law. For further guidance, see the Texas Parks and Wildlife Code, Section 12.0011, which can be found online at http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011. For tracking purposes, please refer to TPWD project number 15206 in any return correspondence regarding this project.

Project Description

The proposed project entails the construction of a new double-circuit 345-kV transmission line using Oncor's standard lattice steel "V" towers. The proposed line would connect the existing Willow Creek Switching Station, located in southwestern Wise County and involving Phase II expansion work, to the planned Hicks Switching Station, located in north central Tarrant County. Oncor retained POWER Engineers, Inc. (POWER) to identify and evaluate alternative routes and to prepare an EA to support their application for a CCN. The project would be approximately 40 miles long, depending on the route chosen, and the proposed right-of-way (ROW) width would be approximately 160 feet. Typical structure height is anticipated to be 125 feet, but tower height will vary depending on terrain.

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

TPWD staff has reviewed the EA and offers the following comments concerning this project.

Previous TPWD Comments

As included in Appendix A of the EA, TPWD provided preliminary information and recommendations regarding the entire CREZ Scenario 2 transmission plan to the PUC on January 21, 2009. TPWD also provided preliminary information and recommendations regarding the study area for this specific project to POWER on June 29, 2009, and regarding potential presence of bald eagles and heron/egret rookeries in a May 27, 2009 email correspondence.

> **Recommendation**: Please review previous TPWD correspondence and consider the recommendations provided, as they remain applicable to the project as proposed.

Limitation of Data Presented in the EA

TPWD's evaluation of the project is based solely on the natural resource information provided in the CCN application and the EA, as well as publicly available information examined in a Geographic Information System. Because no ground or aerial surveys were conducted for all the Alternative Routes, the conclusions regarding potential impacts to environmental resources may not be completely accurate, as areas currently inaccessible to Oncor may eventually reveal new biological information if accessed.

> **Recommendation:** Please refer to the sections below titled *Pre-Construction Recommendations* and *Construction Recommendations* to apply once a route is selected to aid in attenuating potential unknown impacts.
>
> TPWD recommends PUC select a route that would minimize impacts to natural resources.

Additionally, reasons given in Attachment 4 for the selection of Route 222 as the preferred route include a statement that the route crosses no known habitat for any federally-listed endangered or threatened species. In Attachment 4, Table 2 *Environmental Data for Alternative Route Evaluation: CCN Application Routes* and EA Appendix C Table 7-1, Lines 24 and 25 indicate that the 95 Alternative Routes cross up to one known rare/unique plant location and cross no known habitat of endangered or threatened species. TPWD assumes that these assertions are based on the absence of Texas

Natural Diversity Database (TXNDD) records along Route 222 and the Alternative Routes. Although Section 7.2.4.2 indicates that data from the TXNDD is not intended to replace species-specific presence/absence surveys, Table 2 and Table 7-1 do not make a notation to this effect.

TPWD is concerned that providing incomplete information regarding rare threatened, and endangered species, such as in Appendix C Table 7-1 and Attachment 4 Table 2, may lead to inaccurate conclusions by PUC and others who read the document.

> **Recommendation:** When choosing a route, TPWD recommends PUC avoid considering the absence of data in the TXNDD as an indication of absence of rare, unique, or protected species on the landscape. The majority of Texas has never been surveyed for rare, threatened, and endangered species. Records in the TXNDD are provided to users as an indication of resources that have been documented in the general area of their project and therefore may be present on their project site. As indicated in the text of the EA Section 7.4.2.4, TXNDD information cannot be used to determine the absence of a species from an alternative route.

Preferred Route

Various combinations of 66 preliminary alternative route links were combined to form 664 alternative routes evaluated in the EA. The Office Memorandum from Robert F. Holt included as Attachment 4 to the CCN application identifies 95 Alternative Routes filed with the CCN application including Oncor's Preferred Route 222 (Links A-B-F-E-I-J-OO-WW-XX-NNNN-ZZ-AAA-GGG-OOO).

From review of the information provided in the CCN application and EA, TPWD concurs that Oncor has chosen a reasonable Preferred Route. From a TPWD perspective, Route 222 is acceptable compared to other alternative routes within the following environmental data criteria:

- Does not cross parks or recreational areas;
- Does not come within 1,000 feet of parks or recreational areas;
- More than 50 percent of the route parallels existing compatible corridors, including apparent property boundaries;
- Approximately 73 percent of its length crosses cropland/pastureland;
- Approximately 23 percent of its length crosses upland woodlands; and

- The 228,720-foot long route crosses approximately 1,072 feet of bottomland forest, including forested wetlands, which is equivalent to 0.5 percent of the project length.

Recommendations: Please refer to the *Pre-Construction Recommendations* and *Construction Recommendations* provided below as they apply to all the Alternative Routes filed with the CCN application. These sections also reveal specific concerns related to Route 222.

Alternative Routes

The analysis criteria require evaluation of routes to determine whether they are within 100 feet of any stream. Although the eight Alternative Routes filed for the Central-UU/PPPP corridor are not within 100 feet of the West Fork Trinity River, these routes parallel riparian habitat along this waterway for approximately two miles at Link PPPP. The nine Alternative Routes filed for the South-OOOO corridor approach and utilize Link PPPP, thus would also parallel the riparian habitat along West Fork Trinity River. The location of Link PPPP is also in close proximity to the upstream portion of Eagle Mountain Lake. The riparian habitat buffering the West Fork Trinity River and the close proximity to Eagle Mountain Lake indicate the area has high potential to attract migratory birds including waterbirds and waterfowl.

The 12 Alternative Routes filed for the South-PPP corridor cross the forest habitat of the Fort Worth Nature Center and Wildlife Refuge (FWNCWR). Although following an existing utility corridor, utilization of Link PPP would likely require widening the ROW and clearing additional forest within the Preserve. The area along Link PPP also has high potential to attract migratory birds including waterbirds and waterfowl because it crosses the West Fork Trinity River downstream of Eagle Mountain Lake, crosses the longest distance through forested wetlands at 6,353 feet, and is within approximately 0.5 mile of a known colonial waterbird rookery occurrence. The addition of a new, larger line in this high bird use area could put numerous resident and migratory birds at greater risk of colliding with the lines.

Recommendation: The Alternative Routes filed for Central-UU/PPPP, South-OOOO, and South-PPP are not preferred by TPWD. TPWD recommends that routes containing Links PPPP and PPP be avoided. If these routes cannot be avoided, TPWD recommends bird flight diverters be used to mark the lines in these high bird use areas.

If Alternative Routes other than Oncor's Preferred Route 222 are considered, TPWD offers no objection to the 49 Alternative Routes filed for the North-OO Corridor or the 17 Alternative Routes filed for the Central-TT corridor.

Recommendations: Please refer to the *Pre-Construction Recommendations* and *Construction Recommendations* provided below as they apply to all Alternative Routes filed with the CCN application.

Pre-construction Recommendations

Federal Law

Endangered Species Act (ESA)

The EA Section 7.4 indicates that once a route for the project is approved by PUC, Oncor will coordinate with U. S. Fish and Wildlife Service (USFWS) if threatened or endangered species habitats are identified during field surveys. Oncor will also coordinate with USFWS to determine the need for marking or placing bird diverters on the shield wire because the project is located within the Central Flyway for neo-tropical migratory birds and within the migratory flyway for the federally endangered Whooping Crane (*Grus americana*). TPWD supports Oncor's proposed consultations with USFWS for compliance with the ESA.

Section 7.4.2.1 addresses potential collision hazard to the Whooping Crane during the fall migration period when colder air masses with associated fog and inclement weather decrease visibility of the structures and wires. However, the EA does not indicate that Whooping Cranes are also susceptible to collision when they approach stopover habitat during migration. Potential stopover habitat for the Whooping Crane can involve areas where the project routes would come near or cross shallow wetland habitats such as marshes, small ponds, lake edges, and some river habitat. Stopover sites could be located within the study area, possibly within the ROW of some alternative routes if suitable habitat is present. Only a small fraction of Whooping Crane stopover locations have been reported and documented.

Recommendation: TPWD recommends that Oncor consider potential impacts to potential Whooping Crane stopover habitat when siting proposed transmission lines and determining which alternative route should be constructed. If pre-selection route surveys are not feasible, Oncor should identify and delineate potential stopover habitat following route selection so measures to minimize impacts to this species, such as marking the lines with bird flight diverters, can be implemented during

construction. In the absence of surveys for suitable stopover habitat prior to route selection, TPWD recommends PUC assume all route segments that come near or cross shallow wetland habitats such as marshes, small ponds, lake edges, and some river habitat contain potential stopover habitat for the Whooping Crane.

Migratory Bird Treaty Act (MBTA)

Section 7.4.2.1 of the EA states that if ROW clearing occurs during the nesting season, potential impacts could include the potential take of eggs and/or nestlings and that construction-related noise and activity levels could potentially disturb breeding or other activities of species nesting adjacent to the ROW. Oncor proposes to survey the ROW for active nests in accordance with the MBTA prior to clearing activities. Oncor will also coordinate with USFWS to determine the need for marking or placing bird diverters on the shield wire because the project is located within the Central Flyway for neo-tropical migratory birds. TPWD supports Oncor's proposed consultations with USFWS for compliance with the MBTA.

Recommendation: TPWD advises that vegetation removal associated with construction and maintenance be avoided during the primary migratory bird nesting season, March through August, to avoid adverse impacts to migratory bird species within and near the project areas. Additional measures to minimize impacts to migratory birds could include removing old, empty nests outside of the nesting season in areas that are scheduled to be cleared, thereby preventing reuse of old nests.

Land and Water Conservation Fund Act (LWCFA)

Section 6(f) of the LWCFA prohibits conversion of grant-assisted lands to other than public outdoor recreation use. A Section 6(f) evaluation would be required when Land and Water Conservation Fund or Local Parks Fund projects would be impacted by the proposed project.

Recommendation: Link PPP crosses the Fort Worth Nature Center and Wildlife Refuge (FWNCWR) which may have received grant funds from TPWD. If a route containing Link PPP would be chosen instead of Oncor's Preferred Route 222, impacts to grant-assisted lands may apply. Any other alternative route links that cross local parks or recreation areas may also have been awarded grant funds. Oncor should coordinate with the Recreation Grants Program of TPWD (512) 389-8175 to determine if any portion of this project will impact Land and Water Conservation Fund

or Local Parks Fund projects. Oncor should also coordinate with the managers of parks and recreation areas to identify and mitigate potential concerns.

Clean Water Act (CWA)

The U.S. Army Corps of Engineers (USACE) as authorized by Section 404 of the CWA of 1972 issues permits for unavoidable discharge of dredged or fill material into waters of the United States, including wetlands. Any unavoidable impacts to jurisdictional streams and wetlands would be subject to review and approval of the USACE. Although the project may not involve permanent placement of dredged or fill material into waters of the United States, the project would likely convert forested wetlands to herbaceous or scrub/shrub wetlands through maintenance practices within the ROW that prevent succession to forest. Potential permanent impacts to forested wetlands would include an estimated 2.2 acres to 31.5 acres (610 feet to 8,566 feet). For the Preferred Route 222, forested wetland conversion is estimated at 3.9 acres.

Recommendation: Oncor should coordinate with the USACE to verify whether permitting would be necessary for unavoidable conversion of forested wetlands to herbaceous or scrub/shrub wetlands. The Regulatory Branch of the Fort Worth District of the USACE can be reached at (817) 886-1731. Whether regulated by the USACE or not, TPWD suggests that Oncor provide compensatory mitigation for loss of forested wetland function associated with the proposed project.

State Law

Texas Parks and Wildlife Code (TPW Code) Chapter 68.015

Chapter 68.015 of the TPW Code regulates state-listed species. Please note that there is no provision for take (incidental or otherwise) of state-listed species. A copy of TPWD's ***Guidelines for Protection of State-Listed Species*** is attached for your reference. This includes a list of penalties for take of state-listed species.

Section 7.4.2.4 of the EA indicates that suitable habitat for state-listed species may be in the project area. Of the state-listed species that are identified as potentially occurring in the study area in Section 3.6.24 of the EA, TPWD believes that the project would not likely impact the aquatic species as the project can span the habitat for these species. Birds are more mobile and can

leave the area, although the habitat they are using may be directly impacted by clearing for the ROW.

The state-listed endangered Golden-cheeked warbler (*Dendroica chrysoparia*) is also a federally-listed species, though the USFWS does not consider it as occurring in the project area, whereas Texas lists it as potentially occurring in Parker County. The state-threatened Texas horned lizard (*Phrynosoma cornutum*) and Timber/Canebrake rattlesnake (*Crotalus horridus*) have more limited mobility when compared to other species and may occur in areas that would be disturbed or cleared. Where suitable habitat is present for the Golden-cheeked warbler, Texas horned lizard, and Timber/Canebrake rattlesnake, TPWD believes that take of these species may occur as a result of the project during construction and/or maintenance activities.

Recommendation: TPWD recommends that surveys of the final preferred route for suitable habitat of the Golden-cheeked warbler, Texas horned lizard, and Timber/Canebrake rattlesnake be conducted prior to construction. Coordination with USFWS may be necessary if evidence of Golden-cheeked warblers or their habitat is identified within a route. TPWD recommends that clearing of potential habitat areas for the Golden-cheeked warbler within Parker County be avoided.

TPW Code Chapter 26.001

Chapter 26.001 of TPW Code protects the use and taking of public land designated as a park, recreation area, scientific area, wildlife refuge, or historical site. Prior to approving the project, the department, agency, political subdivision, county, or municipality acting through its authorized governing body would need to determine that no feasible and prudent alternative to taking of such public land must be demonstrated and that all reasonable planning to minimize impacts to the property have been explored.

Of the Alternative Routes provided in the CCN application and as previously discussed in this letter, the portion of the routes containing Link PPP would cross the FWNCWR. The Preferred Route 222 would not cross FWNCWR. Oncor should verify whether potential project actions of an Alternative Route at the FWNCWR would be subject to Chapter 26.001.

Recommendation: To protect natural resources and recreational areas of which TPWD shares a common interest of providing access to the outdoors, TPWD prefers that public and nonprofit parks and recreational areas be avoided by the proposed project. If FWNCWR is subject to Chapter 26.001, Oncor should first attempt to avoid crossing the public