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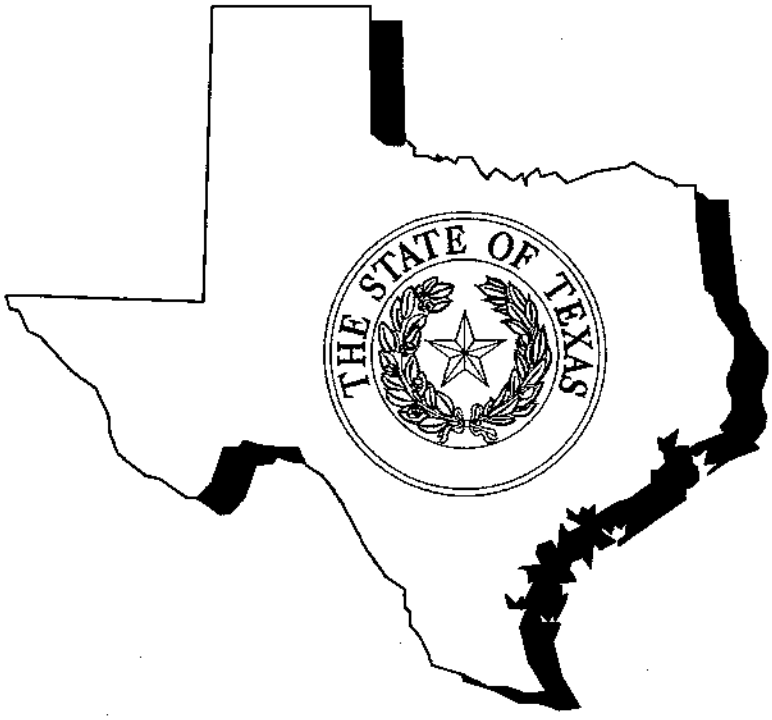
APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE RAMHORN HILL TO DUNHAM 345 KV TRANSMISSION LINE IN DENTON AND WISE COUNTIES	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**



DIRECT TESTIMONY OF

JOHN POOLE, P.E.

INFRASTRUCTURE DIVISION

PUBLIC UTILITY COMMISSION OF TEXAS

AUGUST 14, 2023

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ATTACHMENTS

I. STATEMENT OF QUALIFICATIONS

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

A. My name is John Poole. I am employed by the Public Utility Commission of Texas (Commission) as an Engineer within the Infrastructure Division. My business address is 1701 North Congress Avenue, Austin, Texas 78701.

Q. Please briefly outline your educational and professional background.

A. I have a Bachelor of Science degree in Electrical Engineering. I completed my degree in December of 2014 and have been employed at the Commission since February of 2015. A more detailed resume is provided in Attachment JP-1.

Q. Are you a registered professional engineer?

A. Yes, I am a registered Professional Engineer in Texas. My member number is 133982.

Q. Have you previously testified as an expert before the Commission?

A. Yes. A list of previous testimony is provided in Attachment JP-2.

II. SCOPE OF TESTIMONY

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

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 to be built on triple-circuit capable steel monopole structures. The structures will initially support two 345-kV circuits, with two conductors per phase, with a vacant position to accommodate an additional 138-kV circuit in the future. The new transmission line will begin at the proposed Oncor Ramhorn Hill Switch, to be located approximately 2 miles south of the intersection of United States Highway ("US") 287 and State Highway 114 near Rhome, Texas in Wise County, Texas. The transmission line will then extend 20 to 23 miles, depending on the route, in an easterly direction terminating at the proposed Oncor Dunham Switch that will be located approximately 1.4 miles southeast of the intersection of US 377 and Farm-to-Market 1171 in Flower Mound, Texas in Denton County, Texas (Proposed Project).[1]

Q. What is the scope of your testimony?

A. The scope of my testimony is to provide Commission Staff's recommendation regarding the need for the project and regarding selection of routes from among the proposed alternative routes presented by Oncor.

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

[1] Application of Oncor Electric Delivery LLC to Amend its Certificate of Convenience and Necessity for the Ramhorn Hill- Dunham 345-kV Transmission Line in Denton and Wise Counties at 4 (Jun. 8, 2023). (Application).

A. Section 37.056(a) of the Public Utility Regulatory Act (PURA)[2] states that the Commission may approve an application for a CCN only if the Commission finds that the CCN is necessary for the service, accommodation, convenience, or safety of the public. Further, PURA provides that the Commission shall approve, deny, or modify a request for a CCN 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;

(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, including any potential economic or reliability benefits associated with dual fuel and fuel storage capabilities in areas outside the ERCOT power region; and

(F) To the extent applicable, the effect of granting the certificate on the ability of this state to meet the goal established by

[2] Public Utility Regulatory Act, Tex. Util. Code Ann. §§ 11.001-66.016 (PURA).

PURA § 39.904(a).

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

A. Yes. 16 Texas Administrative Code (TAC) § 25.101(b)(3)(B) requires that an application for a new transmission line address the criteria in PURA § 37.056(c), and that upon 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. The following factors shall be considered in the selection of Oncor's proposed alternative routes:

(i) Whether the routes parallel or utilize existing compatible rights-of-way for electric facilities, including the use of vacant positions on existing multiple-circuit transmission lines;

(ii) Whether the routes parallel or utilize other existing compatible rights-of-way, including roads, highways, railroads, or telephone utility 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 filed on June 9, 2023, the

Commission identified the following issues that must be addressed:

1. Is the applicant'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 transmission 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. 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 is not presented in the application, the ALJ must allow the applicant to amend the application and to provide proper notice to affected landowners; however, if the applicant chooses not to amend the application, then the ALJ may dismiss the case without prejudice.
2. Did the applicant provide notice of the application in accordance with 16 TAC § 22.52(a)(1), (2), and (3)?
3. Did the applicant provide notice of the public meeting in accordance with 16 TAC § 22.52(a)(4)?

4. What were the principal concerns expressed in the questionnaire responses received at or after any public meetings held by the applicant regarding the proposed transmission facilities?

5. Taking into account the factors set out in the Public Utility Regulatory Act (PURA) § 37.056(c), are the proposed transmission facilities necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA § 37.056(a)? In addition, please address the following issues:

   a. How do the proposed transmission facilities support the reliability and adequacy of the interconnected transmission system?

   b. Do the proposed transmission facilities facilitate robust wholesale competition?

   c. What recommendation, if any, has an independent organization, as defined in PURA § 39.151, made regarding the proposed transmission facilities?

   d. Are the proposed transmission facilities needed to interconnect a new transmission service customer?

6. In considering the need for additional service under PURA § 37.056(c)(2) for a reliability transmission project, please address the historical load, forecasted load growth, and additional load currently seeking interconnection.

7. Are the proposed transmission facilities the better option to meet this need when compared to using distribution facilities? If the applicant is not subject

to the unbundling requirements of PURA § 39.051, are the proposed transmission facilities the better option to meet the need when compared to a combination of distribution facilities, distributed generation, and energy efficiency? In answering this issue, if the proposed transmission facilities include a transmission line to address distribution load growth, please address the following:

a. The data used to calculate the applicant' s load-growth projections that support the need for a transmission-line solution;

b. The date, origin, and relevance of the data used to calculate the applicant's load-growth projections;

c. The assumptions made and relied on to generate the load-growth projections, including but not limited to the assumed rates of load growth, the factors (if any) applied to calculate forecasted loads for new developments in the need study area, and adjustments (if any) made to forecasted loads to account for customer load served by any other electric utilities also providing electric service within the applicant's need study area;

d. The location, described in writing and depicted on a map, of the boundaries of the need study area and all existing transmission facilities (including proposed substations or switching stations) within the need study area used for the load-growth projections;

e. If included in the applicant' s load-growth projections, the nature, scope, and location depicted on a map of the following loads:

i. the applicant' s current consumers,

ii. the applicant' s pending load request, and

iii. future development projects included in the applicant's load-growth projections;

f. The location depicted on a map of the existing load center, the load center including existing load and currently requested loads, and the load center including existing load, currently requested loads, and the applicants' projected load growth;

g. The location and identity of any existing transmission lines, whether inside or outside the need study area, that are as close as, or closer to, any load-serving substation proposed in this application compared to the existing transmission line or substation used for the proposed interconnection or tap;

h. The location and identity of any existing substations with remaining transformer capacity, whether inside or outside the need study area, that are as close as, or closer to, any load-serving substation proposed in this application compared to the existing transmission line or substation used for the proposed interconnection or tap;

i. If other utilities are providing distribution service within the applicant's need study area, the location and nature of the other utilities' distribution facilities described in writing and depicted on a map;

j. An analysis of the feasibility, design, and cost effectiveness of a distribution-voltage level alternative that uses the same point(s) of interconnection or tap and endpoint(s) and that is routed along the same

alternative routes as the transmission-level radial line that is requested to be approved;

k. The applicant's planning study or other reports reflecting the nature and scope of new-build distribution facilities or existing distribution-facility upgrades necessary for projected load growth anticipated before the projected load growth that is the basis for this application; and

l. A comparative cost analysis between all new-build distribution facilities or existing distribution-facility upgrades and the proposed radial transmission facilities that segregates the distribution-alternative costs to support the pending load requests and specific future development loads from general load growth in the need study area.

8. Weighing the factors set forth in PURA § 37.056(c) and 16 TAC § 25.101(b)(3)(B), which proposed transmission-line route is the best alternative?

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

10. If alternative routes or configurations of facilities are considered because of individual landowners' preferences, please address the following issues:

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?

11. Are the proposed transmission facilities necessary to meet state or federal reliability standards?

12. What is the estimated cost of the proposed transmission facilities to consumers?

13. What is the estimated congestion cost savings for consumers that may result from the proposed transmission facilities considering both current and future expected congestion levels and the ability of the proposed transmission facilities to reduce those congestion levels?

14. Are the best management practices for construction and operating transmission facilities that are standard in the Commission's electric CCN orders adequate? If not, what additional practices should be required for the proposed transmission facilities?

15. For each additional practice proposed, please address the following:

a. What is the additional cost to design, construct, and operate the proposed transmission facilities, including the cost to consumers?

b. What benefit, if any, will the proposed practice provide?

c. What effect, if any, will the proposed practice have on the reliability of the transmission system?

d. What effect, if any, will the proposed practice have on the design, construction, or operation of the proposed transmission facilities?

e. What effect, if any, will the proposed practice have on the expected date to energize the proposed transmission facilities?

16. Did the Texas Parks and Wildlife Department provide any recommendations or informational comments regarding this application in accordance with section 12.0011(b) of the Texas Parks and Wildlife Code? If so, how should the Commission respond through its order?

17. What permits, licenses, plans, or permission will be required for construction and operation of the proposed transmission facilities? If any alternative route requires permission or an easement from a state or federal agency, please address in detail the following:

a. What agency is involved, and what prior communication has the applicant had with the agency regarding the proposed transmission facilities?

b. Has the agency granted the required permission or easement? If not, when is a decision by the agency expected?

c. What contingencies are in place if the agency does not grant the required permission or easement or if the process to obtain the required permission or easement would materially affect the estimated cost, proposed design plans, or anticipated timeline to construct the proposed transmission facilities?

18. Is any part of the proposed transmission facilities located within the coastal management program boundary as defined in 31 TAC § 27.1(a)? If so, please address the following issues:

a. Do the facilities comply with the goals and applicable policies of the Coastal Management Program in accordance with 16 TAC § 25.102(a)?

b. Will the facilities have any direct and significant effects on any of the applicable coastal natural resource areas specified in 31 TAC § 26.3(b)?

19. Are the circumstances for this line such that the seven-year limit discussed in section III of this Order should be changed?

20. Will anything occur during construction that will preclude or limit a generator from generating or delivering power or that will adversely affect the reliability of the ERCOT system?

21. If complete or partial agreement of the parties is reached on a route that relies on modifications to the route segments as noticed in the application, please address the following issues:

a. Did the applicant comply with the additional notice requirements of 16 TAC § 22.52(a)(2) and (a)(3)(C)?

b. Was written consent obtained from landowners directly affected by the proposed modifications to the route segments?

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

A. I have addressed the issues from the Order of Referral and Preliminary Order and the requirements of PURA § 37.056 and 16 TAC § 25.101.

Q. If you do not address an issue or position in your testimony, should that be interpreted as Staff supporting any other party's position on that issue?

A. No. The fact that I do not address an issue in my testimony should not be considered as agreeing, endorsing, or consenting to any position taken by any other party in this proceeding.

Q. What have you relied upon or considered to reach your conclusions and make your recommendation?

A. I have relied upon my review and analysis of the data contained in Oncor's application and the application's accompanying attachments, including the *Environmental Assessment and Alternative Route Analysis* (EA) prepared by Halff Associates, Inc. (Halff).[3] I have also relied upon my review of the direct testimonies and statements of position filed in this proceeding by or on behalf of Oncor and the intervenors. I have also relied upon my review of the responses to requests for information, and the letters from the Texas Parks and Wildlife Department (TPWD) to Ms. Marisa Wagley, dated July 19, 2023.[4]

III. CONCLUSIONS AND RECOMMENDATIONS

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

1. I conclude that the application is adequate and that Oncor's proposed alternative routes are adequate in number and geographic diversity.
2. I conclude that the application complies with the notice requirements in 16 TAC § 22.52(a).

[3] Application at Attachment 1.

[4] Attachment JP-3.

3. I conclude that, taking into account the factors set out in PURA § 37.056(c), the Proposed Project is necessary for the service, accommodation, convenience and safety of the public.

4. I conclude that the Proposed Project is the best option to meet the need when compared with other alternatives.

5. I conclude that Route 179-C is the best route when weighing, as a whole, the factors set forth in PURA § 37.056(c)(4) and in 16 TAC § 25.101(b)(3)(B).

6. I conclude that TPWD provided mitigation measures regarding the application, and that the mitigation measures provided on pages 18 through 20 of my testimony, as well as mitigation measures mentioned in the environmental concerns on pages 34 through 38 of my testimony, are sufficient to address TPWD's mitigation recommendations. I also conclude that Oncor has the resources and procedures in place in order to accommodate the mitigation recommendations.

Q. What recommendation do you have regarding Oncor's application?

A. I recommend that the Commission approve Oncor's application to amend its CCN in order to construct a new double-circuit 345-kV transmission line to be built on triple-circuit capable steel monopole structures along with the proposed Oncor Ramhorn Hill 345-kV Switch in Wise County and the proposed Oncor Dunham Switch in Denton County. I also recommend that the Commission order Oncor to construct the Proposed Project on Route 179-C (Segments A0, A4, B1, B61, B62, C1, C21, C23, C7, E2, E1, E6, G1, G3, H41, H42, H8, I8, J3, K1, L5, L4, L3, L2,

M1, M5, R2, R5, U3, V3, V4, and Z). I further recommend that the Commission include in its order approving Oncor's application the following paragraphs in order to mitigate the impact of the Proposed Project:

1. Oncor shall conduct surveys, if not already completed, to identify pipelines that could be affected by the transmission lines and coordinate with pipeline owners in modeling and analyzing potential hazards because of alternating-current interference affecting pipelines being paralleled.

2. If Oncor encounters any archeological artifacts or other cultural resources during project construction, work must cease immediately in the vicinity of the artifact or resource, and the discovery must be reported to the Texas Historical Commission. In that situation, Oncor must take action as directed by the Texas Historical Commission.

3. Oncor must follow the procedures to protect raptors and migratory birds as outlined in the following publications: *Reducing Avian Collisions with Power Lines: The State of the Art in 2012,* Edison Electric Institute and Avian Power Line Interaction Committee, Washington, D.C. 2012; *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, Edison Electric Institute, Avian Power Line Interaction Committee, and the California Energy Commission, Washington, D.C. and Sacramento, CA 2006; and *Avian Protection Plan Guidelines*, Avian Power Line Interaction Committee and United States Fish and Wildlife Service, April 2005. Oncor must take precautions to avoid disturbing occupied nests and take steps to minimize the burden of construction on migratory birds

during the nesting season of the migratory bird species identified in the area of construction.

4. Oncor must exercise extreme care to avoid affecting non-targeted vegetation or animal life when using chemical herbicides to control vegetation within rights-of-way. Oncor must ensure that the use of chemical herbicides to control vegetation within the rights-of-way complies with rules and guidelines established in the Federal Insecticide Fungicide and Rodenticide Act and with Texas Department of Agriculture regulations.

5. Oncor must minimize the amount of flora and fauna disturbed during construction of the transmission line, except to the extent necessary to establish appropriate right-of-way clearance for the transmission line. In addition, Oncor must revegetate, using native species and must consider landowner preferences and wildlife needs in doing so. Furthermore, to the maximum extent practical, Oncor must avoid adverse environmental influence on sensitive plant and animal species and their habitats, as identified by the Texas Parks and Wildlife Department and the United States Fish and Wildlife Service.

6. Oncor must implement erosion control measures as appropriate. Erosion control measures may include inspection of the right-of-way before and during construction to identify erosion areas and implement special precautions as determined necessary. Oncor must return each affected landowner's property to its original contours and grades unless otherwise agreed to by the landowner or the landowner's representative. Oncor is not

required to restore the original contours and grades where a different contour or grade is necessary to ensure the safety or stability of the project's structures or the safe operation and maintenance of the lines.

7. Oncor must use best management practices to minimize the potential impacts to migratory birds and threatened or endangered species.

8. Oncor must cooperate with directly affected landowners to implement minor deviations from the approved route to minimize the burden of the transmission line. Any minor deviations from the approved route must only directly affect landowners who were sent notice of the transmission line in accordance with 16 TAC § 22.52(a)(3) and landowners that have agreed to the minor deviation.

9. Oncor must report the transmission line approved by the Commission on its monthly construction progress reports before the start of construction to reflect the final estimated cost and schedule in accordance with 16 TAC § 25.83(b). In addition, Oncor must provide final construction costs, with any necessary explanation for cost variance, after completion of construction when all costs have been identified.

Q. Does your recommended route differ from the route that Oncor believes best addresses the requirements of PURA and the Commission's rules?

A. Yes. Oncor identified Route 179 as the route that best addresses the requirements of PURA and the Commission's rules.[5]

[5] Application at 24.

IV. PROJECT JUSTIFICATION

A. DESCRIPTION OF THE PROJECT

Q. Please describe the Proposed Project.

A. The Proposed Project will consist of constructing a new double-circuit 345 kilovolt (kV) transmission line to be built on triple-circuit capable steel monopole structures. The structures will initially support two 345-kV circuits, with two conductors per phase, with a vacant position to accommodate an additional 138-kV circuit in the future. The new transmission line will begin at the proposed Oncor Ramhorn Hill Switch, to be located approximately 2 miles south of the intersection of United States Highway ("US") 287 and State Highway 114 near Rhome, Texas in Wise County, Texas. The transmission line will then extend 20 to 23 miles, depending on the route, in an easterly direction terminating at the proposed Oncor Dunham Switch that will be located approximately 1.4 miles southeast of the intersection of US 377 and Farm-to-Market 1171 in Flower Mound, Texas in Denton County, Texas.[6]

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

A. Yes.

Q. Is the Proposed Project located within the incorporated boundaries of any

[6] Application at 4.

municipality?

A. Yes. Portions of all of the proposed alternative routes would be constructed within the incorporated boundaries of the City of Flower Mound, Texas and the City of Northlake, Texas.[7] Additionally, portions of some routes will be constructed within the incorporated boundaries of the City of Justin, Texas; the City of New Fairview, Texas; the City of Rhome, Texas; and the City of Fort Worth, Texas.[8]

B. TEXAS COASTAL MANAGEMENT PROGRAM

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

A. No. The study area is not located within the TCMP boundary.[9]

C. NEED FOR THE PROJECT

Q. Could you briefly summarize the need for the project?

A. Yes. As stated in the application, the Proposed Project is needed to address reliability issues in the Roanoke area.[10] The Roanoke area is located approximately 15 miles north of Fort Worth and is one of the highest growth areas in the Dallas-Fort Worth Metroplex.[11] The current power transfer and load-serving capabilities of the transmission system in the Roanoke area are approaching their operating limits

[7] Application at 8.

[8] *Id.*

[9] *Id.*at 33.

[10] *Id.* At 10-11.

[11] *Id.* at 10.

at current demand levels.[12] To address these issues, Oncor recommended the Roanoke Area Upgrades Project to the ERCOT Regional Planning Group (RPG) and ERCOT conducted its own independent review and confirmed the reliability issues Oncor identified.[13]

Q. Has an independent organization, as defined in PURA § 39.151, determined that there is a need for the Proposed Project?

A. Yes. ERCOT recommended the Proposed Project, as part of the Roanoke Area Upgrades Project.[14] The project was recommended as a Tier 1 transmission project that is critical to the reliability of the ERCOT system pursuant to 16 TAC § 25.101(b)(3)(D) by the ERCOT Regional Planning Group. A copy of ERCOT's independent review, dated July 19, 2022, is included with the application.[15]

Q. Are the proposed facilities necessary for the service, accommodation, convenience, or safety of the public within the meaning of PURA § 37.056(a)?

A. Yes. In the ERCOT Independent Review of Oncor Roanoke Area Upgrades Project, ERCOT determined that thermal overloads and low voltage issues were present under some contingencies and they evaluated four different options to address those issues.[16] Three of those options were found to satisfy the reliability issues ERCOT

[12] Application at 10.

[13] *Id.*at 13.

[14] *Id.* at 11.

[15] *Id.* at Attachment 4.

[16] *Id.*, Attachment 4 at 9-11.

identified and all three included the Proposed Project,[17] and the second option was found to best address those reliability issues.[18]

D. PROJECT ALTERNATIVES

Q. Did Oncor consider distribution and transmission alternatives to the Proposed Project?

A. ERCOT considered four different system improvement options to address the reliability issues in the Roanoke area.[19] ERCOT eventually selected the second option, which included the Proposed Project.[20]

Q. Do you agree that the Proposed Project is the best option when compared to other alternatives?

A. Yes. ERCOT carefully considered four different options but determined that the three options that resolved the reliability issues included the Proposed Project.[21]

V. ROUTING

A. STAFF RECOMMENDATION

Q. What routes do you recommend upon considering all factors, including the factors in PURA § 37.056(c) and 16 TAC § 25.101(b)(3)(B)?

[17] Application, Attachment 4 at 12.

[18] *Id.*, Attachment 4 at 22.

[19] *Id.*, Attachment 4 at 11.

[20] *Id.*, Attachment 4 at 22.

[21] *Id.*, Attachment 4 at 12 and 14.

A. Based on my analysis of all the factors that the Commission must consider under PURA § 37.056 and 16 TAC § 25.101, I recommend that Route 179-C 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 route that best addresses the requirements of PURA and the Commission's rules?

A. Oncor identified Route 179 as the routes that they believe best address the requirements of PURA and the Commission's rules.[22]

B. COMMUNITY VALUES

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

A. Yes. Oncor held public meetings as required by 16 TAC § 22.52(a)(4). The meetings were held on December 7, 2022 and December 8, 2022 from 4:00pm to 7:00pm at the Marriott Hotel & Golf Club Champions Circle in Fort Worth, Texas.[23] Oncor sent notice of the meeting to landowners owning property within 520 feet of each of the preliminary alternative route segment centerlines.[24] Oncor also posted notices of the meeting in the *Wise County Messenger* on November 23, 2022 and in the *Denton Record Chronicle* on November 26 and 27, 2022.[25] A total of 172 individuals

[22] Application at 24.

[23] *Id.*, Attachment 1 at Page 5-1.

[24] *Id.*, Attachment 1 at Page 2-11.

[25] *Id.*

attended the meetings and Oncor received 71 questionnaire responses during the meeting and Oncor received "many" questionnaires at a later date.[26]

Q. Did members of the community who attended the public meeting or intervene in this case express concerns about the Proposed Project?

A. Overall the respondents indicated an "overwhelming" preference for maximizing the distances relative to residences, schools, churches, and recreational areas.[27] Due to the many questionnaires and other feedback received by Oncor, Oncor grouped these together by topic:

1. Oncor received approximately 1,000 comments regarding avoiding the Liberty Christian School campus, which was crossed by preliminary Segment D2.[28]

2. Oncor received approximately 450 comments regarding avoiding the Cross Timbers Church, which was impacted by the preliminary Segments D1-D4.[29]

3. Oncor received approximately 550 comments regarding avoiding the Town of Argyle, which was impacted by the preliminary Segments D1-D4.[30]

4. Oncor received approximately 300 comments regarding segments along Farm-to-Market (FM) Road 407 in the Town of Northlake.[31]

5. Oncor received approximately 60 comments regarding segments near the

[26] Application, Attachment 1 at Page 5-1.

[27] *Id.*

[28] *Id.*, Attachment 1 at Pages 5-2 and 5-3.

[29] *Id.*, Attachment 1 at Page 5-3.

[30] *Id.*, Attachment 1 at Page 5-4.

[31] *Id.*, Attachment 1 at Pages 5-4 and 5-5.

community of Canyon Falls, particularly Segment E5.[32]

6. Oncor received approximately 10 comments regarding the Trailwood Subdivision located south of FM 1171, some recommended Segments C1-C2-C5-C7.[33]

7. Oncor received approximately 10 comments regarding the Legacy Ranch Subdivision opposed to any route utilizing Segment J3.[34]

8. Oncor received approximately 20 comments regarding the Avery Ranch Community regarding lines near their community and the Propwash Airport, north of Segment M8 and Sam Reynolds Road.[35]

9. Oncor received approximately 60 comments regarding the Northwest Regional Airport located 2500 feet south of FM 1171, south of Segments E6 and C6.[36]

Other comments regarding specific segments were made opposing Segments F2, F3, and E8; in support of Segments A0 and A4; opposing Segments M5, M4, R1, R2, R3, R6, and R5; opposing Segments T5, T4, T3, and T2; opposing Segments Q5, Q2, and Q1; opposing Segment O7; opposing Segment G9; and opposition to Segment D3's impact on oak trees.[37]

Other general comments concerned the possibility of the project utilizing United States Army Corps of Engineers land south of FM 1171,[38] a desire to keep the

[32] Application, Attachment 1 at Page 5-5.

[33] *Id.*

[34] *Id.*, Attachment 1 at Pages 5-5 and 5-6.

[35] *Id.*, Attachment 1 at Page 5-6.

[36] *Id.*, Attachment 1 at Pages 5-6 and 5-7.

[37] *Id.*, Attachment 1 at Pages 5-7, 5-8, and 5-10.

[38] *Id.*, Attachment 1 at Pages 5-8 and 5-9.

Proposed Project as short as possible,[39] compensation for loss of property values resulting from the Proposed Project,[40] aesthetic values,[41] impacts on natural resources,[42] impacts on farming and ranching,[43] and health and safety concerns.[44]

Q. In your opinion, would construction of the Proposed Project on Route 179-C mitigate the concerns expressed by members of the community at the open houses and in comments by intervenors?

A. To some extent 179-C can mitigate these concerns. Route 179-C's centerline is within 500 feet of 98 habitable structures which is tied for 4th least of the proposed alternative routes, 5 more than the route with the least habitable structures within 500 feet of its centerline Route 164.[45] Route 179-C does not cross any parks or recreational areas and has four parks or recreational areas within 1,000 feet of its centerline, just one more than the routes with the fewest within 1,000 feet of their centerline.[46]

In response to the specific routing concerns of the community, Route 179-C does not use Segments D1-D4 and along FM Road 407. However, none of the routes in the application use those preliminary segments as they were eliminated in response

[39] Application, Attachment 1 at Page 5-9.

[40] *Id.*

[41] *Id.*, Attachment 1 at Pages 5-9 and 5-10.

[42] *Id.*, Attachment 1 at Page 5-10.

[43] *Id.*, Attachment 1 at Pages 5-10 and 5-11.

[44] *Id.*, Attachment 1 at Page 5-11.

[45] *Compare id.*, Attachment 1 at Appendix E (Table 7-2) *with* Attachment JP-4 Part 1 at 000019-20.

[46] *Id.*

to the feedback received in the community involvement process.[47] Route 179-C avoids using most of the segments around the Canyon Falls community, in particular Segment E5.[48] Route 179-C utilizes Segments C1, C7 and C21. C21 was part of the preliminary Segment C2, which was split into Segments C21 and C22 in response to the community involvement process.[49] Route 179-C utilizes Segment L4 which is 6,000 feet from the Propwash Airport, this is 4,000 feet farther than Segment M8 which it does not utilize.[50] Route 179-C does utilize Segment E6 but not Segment C6.[51] Route 179-C does utilize Segment J3.[52]

In response to the other routing concerns by individuals, Route 179-C avoids Segments F2, F3, E8, M4, R1, R3, R6, T5, T4, T3, T2, Q5, Q2, Q1, O7, G9, and D3 which were segments specifically opposed by commenters. Route 179-C also utilizes both Segments A0 and A4 as requested by commenters. Route 179-C, however, does utilize Segments M5, R2, and R5 which were segments specifically opposed.[53]

In response to the general concerns, Route 179-C is the 29th shortest route of 84. Route 179-C is 5,249 feet longer than the shortest route, Route 16, but 10,596 shorter

[47] Application, Attachment 1 at Page 6-2.

[48] Attachment JP-4 Part 1 at 000019.

[49] Attachment JP-4 Part 1 at 000019 and Application, Attachment 1 at Page 6-3.

[50] Attachment JP-4 Part 1 at 000019 and Application, Attachment 1 at Appendix F (Table 7-6).

[51] Attachment JP-4 Part 1 at 000019.

[52] *Id.*

[53] *Id.*

than the longest route, Route 216.[54] Route 179-C crosses the 17th least amount of rangeland with 58,417 feet, 11,959 feet longer than the shortest length by Route 26 and 17,901 feet shorter than the longest length by Route 187.[55] However, Route 179-C crosses the 69th least amount of cropland and hay meadow land with 22,691 feet, 10,344 feet longer than the shortest length by Route 164R and 13,540 feet shorter than the longest length by Route 69.[56]

I will specifically address additional issues regarding recreational and park areas, historical values, aesthetic values, environmental integrity, engineering constraints, costs, moderation of impact on the affected community and landowners, and right-of-way later in my testimony.

Q. Are property values and the impact on future or potential development factors that are considered by the Commission in a CCN proceeding under PURA § 37.056(c)(4) or in 16 TAC § 25.101(b)(3)(B)?

A. No. PURA and the Commission's rules do not list these two issues as factors that are to be considered by the Commission in a CCN proceeding. However, these rules do require consideration of using or paralleling existing right-of-way, which may minimize concerns about the impact on property values or planned development.

Q. Are there any routes that did not receive specific opposition from intervenors?

[54] *Compare* Application, Attachment 1 at Exhibit E (Table 7-2) *with* Attachment JP-4 Part 1 at 000019.

[55] *Id.*

[56] *Id.*

A. No.

C. RECREATIONAL AND PARK AREAS

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

A. Twenty parks and recreational areas are either crossed or within 1,000 feet of the centerline of the proposed alternative routes.[57] The number of parks or recreational areas either crossed or within 1,000 feet of the centerline of the proposed alternative routes ranges from 3 (Routes 29, 33, 36, 41, 42, 86, 207, 217, 218, and 29R) to 11 (Routes 117 and 119).[58] Routes range from crossing no parks or recreational areas (Routes 29, 33, 36, 41, 42, 43, 44, 54, 58, 71, 86, 87, 154, 175, 176, 178, 179, 184, 185, 207, 216, 221, 179-A, 179-B, 179-C, and 29R) to crossing 3,844 feet of parks and recreational areas (Routes 92, 94, 96, 103, 108, 143, and 146).[59] Route 179-C crosses no parks or recreational areas, and has four parks and recreational areas within 1,000 feet of its centerline.[60]

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

[57] Application at Attachment 16.

[58] *Id.*, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 3.

[59] Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015 and 000019.

[60] Attachment JP-4 Part 1 at 000019.

proposed alternative routes or that are located within 1,000 feet of the centerline of any of the proposed alternative routes?

A. There is a cemetery, the Dunham Cemetery, that is approximately 610 feet from Segment A0, which is utilized by all the proposed alternative routes.[61] There is an additional cemetery, the City of Justin Cemetery, that is approximately 100 feet from Segment J4, which is utilized by Routes 1, 19, 65, 67, 68, 69, 72, 92, 94, 96, 103, 108, 142, 143, 146, 170, 191, 192, and 219.[62] A historically significant area, Bishop Park, is crossed by Segment J4, which is utilized by Routes 1, 19, 65, 67, 68, 69, 72, 92, 94, 96, 103, 108, 142, 143, 146, 170, 191, 192, and 219.[63] Two recorded archeological sites are within 1,000 feet of the centerline of the proposed alternative routes. A former schoolhouse is crossed by Segment M1, which is utilized by Routes 3, 5, 13, 14, 15, 16, 18, 22, 23, 24, 25, 26, 28, 29, 36, 43, 44, 58, 61, 63, 70, 78, 87, 108, 116, 119, 130, 132, 137, 146, 164, 179, 199, 200, 179-A. 179-B, 179-C, 22R, 29R, 116R, 130R, 132R, and 164.[64] A historic house is within 90 feet of the centerline of Segment L2, which is utilized by Routes 3, 5, 10, 11, 13, 14, 15, 16, 18, 19, 22, 23, 24, 25, 26, 28, 29, 33, 36, 43, 44, 58, 61, 63, 70, 78, 87, 92, 108, 116, 117, 119, 130, 132, 137, 146, 154, 164, 170, 178, 179, 186, 187, 199, 200, 216, 179-A, 179-B, 179-C, 22R, 29R, 116R, 130R, 132R, and 164R.[65]

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[61] Application, Attachment 1 at Page 7-26 and Attachment 7 Part 4, and Attachment JP-4 Part 1 at 000011, 000015, 000019 and 000036.

[62] *Id.*

[63] *Id.*

[64] *Id.*

[65] *Id.*

The proposed alternative routes have from one historic or archeological site within 1,000 feet of its centerline (for Routes 41, 42, 54, 71, 86, 138, 175, 176, 184, 185, 207, 217, 218, and 221) to five (for Route 108 and 146).[66] Route 179-C's centerline is within 610 feet of the Dunham Cemetery on Segment A0, within 90 feet of a historic house on Segment L2, and crosses the former school house on Segment M1.[67]

The length of the routes across areas of high archeological/historical site potential ranges from 28,161 feet for Route 186 to 64,206 feet for Route 28.[68] Route 179-C crosses 56,753 feet of areas of high archeological/historical site potential.[69]

If any further archeological or cultural resources are found during construction of the proposed transmission line, Oncor should immediately cease work in the vicinity of the archeological or cultural resources, and should immediately notify the Texas Historical Commission.

E. AESTHETIC VALUES

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?

A. In my opinion, all of the proposed alternative routes would result in a negative

[66] Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015, and 000019 and Attachment JP-4 Part 3.

[67] Application, Attachment 1 at 7-24 and Attachment JP-4 Part 1 at 000019.

[68] Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment 7 Part 4, and Attachment JP-4 Part 1 at 000012, 000016, and 000020 and Attachment JP-4 Part 3.

[69] Attachment JP-4 Part 1 at 000020.

impact on aesthetic values, some routes more than others, depending on the visibility from homes and public roadways. Temporary effects would include views of the actual transmission line construction (e.g. assembly and erection of the structures) and of any clearing of right-of-way. Permanent effects would involve the visibility of the structures and the lines. I therefore conclude that aesthetic values would be impacted throughout the study area, and that these temporary and permanent negative aesthetic effects will occur on any proposed alternative routes approved by the Commission.

F. ENVIRONMENTAL INTEGRITY

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

A. The area traversed by the project is within the Grand Prairie Western Timbers Physiographic Region.[70] The Interior Coastal Plains consists of low stairstep hills with calcareous bedrock types to the east, and plains with sandier bedrock types to the west. The study area primarily consists of the Fort Worth Limestone, which incorporates limestone and clay deposits, and Duck Creek Formation, which incorporates limestone aphanitic that is in part bioclastic and has pyrite nodules and forms topographic benches.[71]

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

[70] Application, Attachment 1 at Page 3-1.

[71] *Id.*

Proposed Project?

A. I reviewed the information provided in the application and the EA, the direct testimonies and statements of position of the intervenors, responses to requests for information, and the letters from TPWD to Ms. Marisa Wagley, dated July 19, 2023.[72]

Q. Based on your review of the information identified above, in your opinion, will the Proposed Project present a significant negative impact to environmental integrity?

A. No. Transmission lines do not often create many long-term impacts on soils. Most of those impacts will be during initial construction and would be erosion and soil compaction; however, Oncor will employ erosion control during initial construction including development of a Storm Water Pollution Prevention Plan to minimize impacts.[73]

Primary impacts on vegetation would be the result of site preparation and clearing of existing woody vegetation in the right-of-way,[74] further disturbances would then occur during maintenance activities.[75] Oncor will attempt to minimize adverse impacts to vegetation and retain existing ground cover where possible, and to restore disturbed areas with native species where possible.[76] The length of upland

[72] Attachment JP-3.

[73] Application, Attachment 1 at Pages 7-1 and 7-2.

[74] *Id.*, Attachment 1 at Page 7-6.

[75] *Id.*, Attachment 1 at Page 7-2.

[76] *Id.*, Attachment 1 at Pages 7-6 and 7-7.

woodlands along the right-of-way of the proposed routes ranges from 8,022 feet for Route 217 to 15,125 feet for Route 26.[77] The length of riparian areas along the right-of-way of the proposed routes ranges from 4,579 feet for Route 187 to 15,690 feet for Route 26.[78] The length of upland woodlands along the right-of-way of Route 179-C is 11,311 feet and the length of riparian areas along the right-of-way of Route 179-C is 11,536 feet.[79]

While there are no federally listed endangered or threatened plant species known to occur in Denton and Wise Counties, TPWD county lists of rare species and Natural Diversity Database data suggest that the study area may contain rare plant species that require special consideration.[80] Oncor will avoid impacts to these rare plants, following TPWD recommendation, should specimens be found.[81] The estimated number of known rare or unique plant locations within the right-of-way ranges from zero for Routes 94, 96, 103, 108, 116, 117, 119, 130, 132, 137, 138, 142, 143, 146, 186, 187, 191, 192, 217, 218, 219, 116R, 130R, and 132R to four for Routes 33, 68, 69, 71, 175, 176, 178, 184, and 185.[82] Route 176-C has one known rare or unique plant location within its right-of-way.[83]

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[77] Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015, and 000019 and Attachment JP-3 Part 3.

[78] *Id.*

[79] Attachment JP-4 Part 1.

[80] Application, Attachment 1 at Pages 7-7 and 7-8.

[81] *Id.*, Attachment 1 at Page 7-8.

[82] *Id.*, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015, and 000019 and Part 3.

[83] Attachment JP-4 Part 1 at 000019.

The length across potential wetlands ranges from Routes 36, 41, 42, 43, 44, 58, 71, 86, 87, 137, 138, 175, 176, 179, 184, 185, 207, 179-A, 179-B, and 179-C, which do not cross any wetlands at all, to Routes 92 and 218 which cross 849 feet of potential wetlands.[84] Oncor will attempt to span wetland areas whenever possible and use erosion controls mitigation measures to minimize impacts to aquatic systems should a route be selected which crosses wetland areas.[85]

While federally listed threatened or endangered species may occur within the study area, there are no designated critical habitat for any federally listed threatened or endangered species along any of the proposed alternative routes.[86]

However, construction of some of the proposed alternative routes could, at some locations, present a negative impact on the environment, particularly in sensitive areas such as wetlands, riparian areas, and woodlands.

Q. In your opinion, how would construction of the Proposed Project on Route 179-C compare from an environmental perspective to construction on the other routes?

A. Route 179-C has 11,311 feet of its length across upland woodlands, which is 3,289 feet longer than the shortest length of Route 217 and 4,379 feet shorter than the

[84] Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015, and 000019 and Part 3.

[85] Application, Attachment 1 at Page 7-11.

[86] *Id.*, Attachment 1 at Pages 7-12 and 7-13. *See also, id.* at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011, 000015, 000019 and Part 3.

longest length of Route 26.[87] The length of riparian areas along the right-of-way of Route 179-C is 11,536 feet, which is 6,957 feet longer than the shortest length of Route 187 and 4,182 feet shorter than the longest length of Route 28.[88] Route 179-C crosses no potential wetlands, but does have one location of known rare or unique plants within its right-of-way, while some routes have none.[89] In its letter dated July 19, 2023 TPWD selected Route 137 as the route having the least potential impact on environmental integrity.[90]

Q. Do you conclude that Route 179-C is acceptable from an environmental and land use perspective?

A. Yes, however I do not think any of the routes in this project are unacceptable from an environmental and land use perspective. I conclude that Route 179-C is acceptable from this perspective.

G. ENGINEERING CONSTRAINTS

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

A. There are no specific engineering constraints that are not present in a usual transmission line project. In my opinion, all of the possible constraints can be adequately addressed by using design and construction practices and techniques that

[87] *Compare* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 1 at 000011 and 000015 and Part 3 *with* Attachment JP-4 Part 1 at 000019.

[88] *Id.*

[89] *Id.*

[90] Attachment JP-3 at 5.

are usual and customary in the electric utility industry.

Q. Are there any special circumstances in this project that would warrant an extension beyond the seven-year limit for the energization of the lines?

A. No, Oncor has not described any special circumstances that would merit an extension of this limit for this project.

H. COSTS

Q. What are Oncor's estimated costs of constructing the Proposed Project on each of the proposed alternative routes?

A. Attachment 3 of the application and Attachment JP-4 list Oncor's estimated costs of constructing each proposed alternative route. The table below shows the total estimated cost for each of the routes from least expensive to the most expensive. Each listed cost includes $33,510,000 for the proposed Oncor Ramhorn Hill Switch and $41,348,000 for the proposed Oncor Dunham Switch.[91]

Route	Estimated Cost of the Route and Substation Upgrades
29	$239,439,000.00
191	$241,023,000.00
96	$241,684,000.00
29R	$241,866,000.00
1	$242,687,000.00
103	$242,803,000.00
143	$242,950,000.00
192	$242,990,000.00
42	$243,168,000.00
142	$243,265,000.00
65	$243,433,000.00
94	$244,025,000.00

[91] Application at 9.

72	$244,192,000.00
219	$244,428,000.00
67	$244,890,000.00
19	$246,198,000.00
36	$247,084,000.00
146	$247,208,000.00
68	$247,292,000.00
86	$247,596,000.00
179-C	**$247,602,000.00**
41	$248,257,000.00
16	$248,672,000.00
179	$250,066,000.00
179-A	$250,269,000.00
207	$250,508,000.00
13	$251,326,000.00
217	$252,451,000.00
130R	$252,548,000.00
15	$252,688,000.00
43	$252,781,000.00
69	$253,103,000.00
218	$253,210,000.00
179-B	$253,360,000.00
61	$253,542,000.00
130	$254,031,000.00
44	$254,143,000.00
25	$254,337,000.00
200	$254,370,000.00
14	$254,421,000.00
108	$254,449,000.00
18	$254,612,000.00
78	$255,474,000.00
138	$255,710,000.00
170	$255,732,000.00
87	$255,880,000.00
221	$256,048,000.00
54	$256,096,000.00
26	$256,303,000.00
22R	$256,732,000.00
23	$256,991,000.00
199	$257,024,000.00
71	$257,336,000.00
132R	$257,471,000.00
63	$258,137,000.00
22	$258,284,000.00
24	$258,353,000.00

137	$258,572,000.00
186	$258,836,000.00
132	$258,961,000.00
10	$259,469,000.00
176	$260,358,000.00
116R	$260,682,000.00
175	$260,821,000.00
58	$261,067,000.00
11	$261,436,000.00
116	$262,188,000.00
33	$262,393,000.00
185	$262,510,000.00
92	$262,844,000.00
184	$263,596,000.00
187	$265,371,000.00
178	$268,517,000.00
70	$270,086,000.00
164R	$270,807,000.00
164	$272,098,000.00
154	$273,076,000.00
216	$276,982,000.00
28	$281,526,000.00
5	$283,528,000.00
3	$287,544,000.00
119	$299,849,000.00
117	$312,281,000.00

As the table illustrates, Route 179-C is the 21st least expensive proposed alternative route.

Q. Could you briefly discuss the routes that are less expensive and why Route 179-C is still preferred?

A. Yes. All the less expensive routes have more habitable structures within 500 feet of their centerlines than Route 179-C.[92] Route 179-C makes better use of compatible

[92] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 3.

right-of-way as a percentage of its total length than Routes 142, 103, 65, 19, 192, 42, 86, 96, 191, 143, 68, 146, 219, 1, 72, and 67.[93] Route 179-C is shorter than Routes 103, 94, 219, 65, 1, 191, 192, 72, 29R, 67, 19, 29, 68, 142, 143, and 146.[94] Routes 142, 1, 19, 65, 67, 68, 72, 191, 192, 219, 94, 96, 103, 143, and 146 all cross parks and recreational areas while Route 179-C does not.[95]

Q. Do Oncor's estimated costs of constructing the Proposed Project appear to be reasonable?

A. After reviewing Oncor's estimates, the estimated costs for the proposed alternative routes are about what I would expect for a double-circuit 345-kV, triple-circuit capable, monopole project in this terrain. However, the reasonableness of the final installed cost of the completed project will be determined at a future date in the course of a transmission cost-of-service 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. Under 16 TAC § 25.101(b)(3)(B), "the line shall be routed to the extent

[93] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2).

[94] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 3.

[95] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2).

reasonable to moderate the impact on the affected community and landowners unless grid reliability and security dictate otherwise."

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

A. While new routing segments have been introduced, none of been included in any proposed routes at the time of my testimony, as they cannot be utilized until the requestor provides proof of written consent by directly affected landowners.[96] Oncor has introduced Routes 179-A, 179-B, 179-C, 22R, 29R, 116R, 130R, 132R, and 164R in response to a request for information request by intervenor Edgar Brent Watkins and Mary Ann Livengood.[97]

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. No, not to my knowledge.

J. RIGHT-OF-WAY

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

[96] Attachment JP-4 Part 1 at 000023.

[97] *See* Attachment JP-4 Part 1.

A. Yes. The following factors are to be considered under 16 TAC § 25.101(b)(3)(B):

(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 AND PARALLELING OF EXISTING, COMPATIBLE RIGHT-OF-WAY (INCLUDING APPARENT PROPERTY BOUNDARIES)

Q. Describe how Oncor proposes to parallel or utilize compatible rights-of-way for the Proposed Project.

A. Each proposed alternative route parallels apparent property boundaries and parallels or utilizes existing compatible rights-of-way. The percentage of Route 179-C's length that parallels or utilizes existing compatible right-of-way and apparent property boundaries is approximately 23.25% of its length. The table below summarizes the overall length, the length parallel to compatible rights-of-way or to property boundaries, and the total percentage of parallel rights-of-way used by the proposed alternative routes. Existing pipeline rights-of-way are not listed as compatible rights-of-way under 16 TAC § 25.101(b)(3)(B).

Route	Length (Feet)	Length Parallel to Right-of-Way (Feet)	Percentage
117	119,593	47,414	39.65%
116R	118,307	44,465	37.58%
63	107,230	38,148	35.58%

132R	118,016	41,734	35.36%
130R	116,821	40,541	34.70%
154	119,463	40,543	33.94%
11	108,190	36,675	33.90%
116	119,030	40,204	33.78%
15	105,547	34,920	33.08%
61	106,109	34,948	32.94%
78	106,044	34,900	32.91%
10	107,966	35,263	32.66%
137	111,599	36,161	32.40%
164R	114,759	36,646	31.93%
13	108,924	34,587	31.75%
119	118,138	37,496	31.74%
3	108,960	34,445	31.61%
132	118,739	37,473	31.56%
184	117,406	36,732	31.29%
24	106,244	33,131	31.18%
130	117,544	36,281	30.87%
187	115,987	35,068	30.23%
23	109,621	32,798	29.92%
22R	109,621	32,798	29.92%
178	119,040	35,525	29.84%
199	110,007	32,658	29.69%
186	114,792	33,876	29.51%
216	120,969	35,590	29.42%
92	119,760	35,211	29.40%
71	116,232	34,121	29.36%
29R	113,597	32,501	28.61%
138	111,258	31,809	28.59%
18	111,183	31,685	28.50%
16	105,124	29,931	28.47%
33	116,619	32,991	28.29%
164	115,482	32,385	28.04%
26	106,045	29,554	27.87%
28	110,319	30,367	27.53%

5	108,537	29,455	27.14%
70	117,115	31,498	26.89%
14	111,501	29,931	26.84%
25	105,821	28,141	26.59%
179-A	114,174	30,322	26.56%
200	106,206	28,002	26.37%
175	117,796	30,635	26.01%
36	108,375	28,120	25.95%
185	117,146	30,321	25.88%
22	110,345	28,537	25.86%
29	114,320	28,240	24.70%
170	116,686	28,046	24.04%
218	111,817	26,298	23.52%
94	111,175	25,989	23.38%
179-C	**110,373**	**25,665**	**23.25%**
142	116,653	27,048	23.19%
103	110,806	25,646	23.14%
69	118,810	27,400	23.06%
217	112,061	25,480	22.74%
179	114,898	26,061	22.68%
108	118,176	26,791	22.67%
65	111,587	25,198	22.58%
54	111,219	25,023	22.50%
19	114,265	25,511	22.33%
44	106,411	23,690	22.26%
192	112,247	24,786	22.08%
41	110,686	24,374	22.02%
42	108,034	23,769	22.00%
179-B	116,750	25,665	21.98%
86	108,531	23,749	21.88%
43	109,788	23,357	21.27%
96	110,086	23,308	21.17%
176	118,808	25,145	21.16%
87	110,285	23,337	21.16%
191	112,023	23,374	20.87%

58	107,108	21,901	20.45%
143	116,661	23,724	20.34%
68	115,997	23,326	20.11%
207	109,117	21,840	20.02%
146	118,637	23,131	19.50%
219	111,226	20,193	18.15%
1	111,751	20,181	18.06%
72	112,248	20,161	17.96%
67	113,673	20,376	17.93%
221	111,588	19,253	17.25%

As the chart shows, Route 179-C is the 28th shortest route and has the 53rd highest percentage of compatible right-of-way compared to the other proposed alternative routes.

Q. Could you briefly discuss the routes that are shorter and utilize a higher percentage of compatible right-of-way and why Route 179-C is still preferred?

A. Yes. Route 179-C has less habitable structures within 500 feet of its centerline and is less expensive than Routes 44, 58, 207, 43, 87, 117, 116R, 63, 132R, 130R, 154, 11, 116, 15, 61, 78, 10, 137, 13, 119, 3, 132, 184, 24, 130, 187, 23, 22R, 178, 199, 186, 216, 92, 71, 138, 18, 16, 33, 26, 28, 5, 70, 14, 25, 179-A, 200, 175, 185, 22, 170, and 218.[98] Route 179-C is less expensive and shorter than Routes 164 and 164R.[99] Route 179-C has fewer habitable structures within 500 feet of its centerline

[98] *Compare* Attachment JP-4 Part 1 at 000019 and 21 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment 3 and Attachment JP-4 Part 1 at 000013 and 000015, Part 2, and Part 3.

[99] *Compare* Attachment JP-4 Part 1 at 000019 and 21 *with* Application, Attachment 1 at Exhibit E (Table 7-2), Attachment 3 and Attachment JP-4 Part 2 and Part 3.

and is shorter than Routes 29R, 36, 29, and 94.[100] Routes 22R, 10, 11, 13, 14, 15, 16, 18, 22, 23, 24, 25, 26, 61, 63, 78, 199, 200, 130R, 132R, 130, 132, 137, 138, 116, 116R, 28, 3, 5, 164, 164R, 117, 119, 70, 186, 187, 218, 170, and 92 cross parks and recreational areas while Route 179-C does not.[101]

2. PARALLELING OF NATURAL OR CULTURAL FEATURES

Q. Describe how Oncor proposes to parallel natural or cultural features for the Proposed Project.

A. None of the proposed alternative routes parallel natural or cultural features.

K. PRUDENT AVOIDANCE

Q. Define prudent avoidance.

A. Prudent avoidance is defined by 16 TAC § 25.101(a)(6) 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 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.

[100] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 3.

[101] *Id.*

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

A. The table below ranks the number of habitable structures that are within 500 feet of the centerline of the proposed alternative routes in this project.

Route	Number of habitable structures
164	93
164R	96
179	97
179-C	**98**
179-B	98
179-A	100
175	108
176	110
184	112
185	112
29	131
5	132
28	133
29R	134
154	145
178	145
71	146
3	151
36	155
42	158
86	158
207	160
41	168
33	183
1	188
65	188
72	188
14	191
16	191
61	191
13	193
18	193

200	193
199	195
22	197
43	197
87	197
25	198
23	200
146	200
22R	200
26	202
116	203
130	204
132	204
119	205
116R	206
130R	207
132R	207
15	210
78	210
44	214
24	217
63	217
143	220
221	220
58	221
142	223
218	226
137	228
138	231
69	234
68	240
67	252
216	261
117	263
70	266
54	267
108	271
170	282
103	287
96	290
217	293
94	294
92	319
19	320
219	327

10	348
11	352
186	364
187	364
191	396
192	400

There are 98 habitable structures that are within 500 feet of the centerline of Route 179-C which is tied for the 4th least of any route.

Q. Could you briefly discuss the routes with an equal or fewer number of impacted habitable structures and why Route 179-C is still preferred?

A. Yes. Routes 179, 179-B, 164R, and 164 are all longer and more expensive than Route 179-C.[102] Route 179-C makes better use of compatible right-of-way as a percentage of its total length than Routes 179 and 179-B. Routes 164 and 164R cross park and recreational areas while Route 179-C does not.[103]

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

A. Oncor has designed its proposed segments in such a way as to minimize, to the extent reasonable, the number of habitable structures located in close proximity to the routes. However, some routes perform better in this area than others.

[102] *Compare* Attachment JP-4 Part 1 at 000019 and 21 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment 3 and Attachment JP-4 Part 1 at 000015 and 000017, Part 2, and Part 3.

[103] *Compare* Attachment JP-4 Part 1 at 000019 *with* Application, Attachment 1 at Exhibit E (Table 7-2) and Attachment JP-4 Part 3.

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 179-C instead of the other proposed alternative routes?

A. In summary, after analyzing all the factors that the Commission must consider under PURA § 37.056 and 16 TAC § 25.101, I conclude that Route 179-C best meets the criteria of PURA and the Commission's rules because:

(1) Route 179-C is the 21st least expensive proposed route at $247,602,000.00, a $8,163,000.00 or 3.41% difference from the least expensive route;

(2) Route 179-C is the 29th shortest route at 110,373 feet, a 5,249 feet or 5% difference from the shortest route;

(3) Route 179-C is tied for the 4th least amount of habitable structures within 500 feet of its centerline with 98, five more than the route with the least number of habitable structures;

(4) Route 179-C has none of its length across parks or recreation areas; and

(5) Route 179-C has none of its length across potential wetlands.

Route 179-C, like all of the proposed alternative routes, has some advantages and

some disadvantages as I have discussed in my testimony. However, I consider Route 179-C overall to have the most advantages and to be superior to the other proposed alternative routes.

Q. Does this conclude your testimony?

A. Yes

Attachment JP-1

Qualifications of John Poole

JOHN R. POOLE, P.E.

Texas Board of Professional Engineers, Texas P. E. License #133982

EDUCATION

B.A., History/Mathematics, Southwestern University, 2000

BSEE, The University of Texas Cockrell School of Engineering, 2014
Grade Point Average 3.32

Technical Cores: Energy Systems and Renewable Energy, Electronics and Integrated Circuits

Related Courses: Circuit Theory, Linear Systems & Signals, Embedded Systems, Software Design, Vector Calculus, Electronic Circuits, Power Systems, Discrete Mathematics, Solid-state Electronic Devices, Electromagnetic Engineering, Power Electronics Laboratory, Automatic Control, Fundamentals of Electronic Circuits, Engineering Design, Power Systems, Power Quality & Harmonics, Digital Logic Design, Analog Integrated Circuit Design

PROFESSIONAL EXPERIENCE

PUBLIC UTILITY COMMISSION OF TEXAS
Engineer **2/15-Present**

Responsible for analyzing and providing recommendations regarding issues related to electric facility planning, construction, operations, and maintenance.

UNIVERSITY OF TEXAS AT AUSTIN
Solar powered three-phase motor drive/Dr. Ross Baldick **2/14-12/14**

Worked in a five-person team to design and implement a solar-powered motor system with a Maximum PowerPoint Tracker and a three-phase H-Bridge. Personal responsibility included project National Electrical Code (NEC) compliance.

UNIVERSITY OF TEXAS AT AUSTIN
Solar Vehicle Team (UTSVT)/Dr. Gary Hallock **9/14-12/14**

Coordinated team of 5 for the design, lay-out, and wiring of solar array for the new UTSVT vehicle. Research and execution of solar cell lamination techniques.

UNIVERSITY OF TEXAS AT AUSTIN **12/04-9/14**
Administrative Associate

Managed billing and collections for two departments independently.
Provided timely and efficient customer service to University cell phone users.
Worked as part of Returned Checks team in Student Accounts Receivable, managing high call volumes and communicating effectively with team.

Attachment JP-2

List of Previous Testimony

Application of LCRA Transmission Services Corporation to Amend its Certificate of Convenience and Necessity for the Proposed Blumenthal Substation and 138-kV Transmission Line in Blanco, Gillespie, and Kendall Counties, SOAH Docket No. 473-15-1589, PUC Docket No. 43599

Application of Brazos Electric Power Cooperative Inc. to Amend a Certificate of Convenience and Necessity for a 138-kV Transmission Line in Denton County, SOAH Docket No. 473-15-2855, PUC Docket No. 44060

Application of Entergy Texas, Inc. for Approval to Amend its Distribution Cost Recovery Factor, SOAH Docket No. 473-16-0076, PUC Docket No. 45083

Application of Southwestern Public Service Company for Authority to Change Rates, SOAH Docket No. 473-16-2520, PUC Docket No. 45524

Application of Southwestern Electric Power Company for Approval of a Distribution Cost Recovery Factor, SOAH Docket No. 473-16-3306, PUC Docket No. 45712

Application of LCRA Transmission Services Corporation to Amend a Certificate of Convenience and Necessity for the Round Rock-Leander 138-kV Transmission Line in Williamson County, SOAH Docket No. 473-16-4342, PUC Docket No. 45866

Joint Application of AEP Texas North Company and Electric Transmission Texas, LLC to Amend their Certificates of Convenience and Necessity for the AEP TNC Heartland to ETT Yellowjacket 138-kV Transmission Line in McCulloch and Menard Counties, SOAH Docket No. 473-17-0907, PUC Docket No. 46234

Application of Oncor Electric Delivery Company, LLC to Amend a Certificate of Convenience and Necessity for a 345/138-kV Transmission Line in Loving, Reeves, and Ward Counties, SOAH Docket No. 473-18-0373, PUC Docket No. 47368

Application of Rayburn Country Electric Cooperative, Inc. to Amend its Certificate of Convenience and Necessity for a 138-kV Transmission Line in Fannin County, Texas, SOAH Docket No. 473-18-0582, PUC Docket No. 47448

Application for the City of Lubbock Through Lubbock Power and Light for Authority to Connect a Portion of its System with The Electric Reliability Council of Texas, PUC Docket No. 47576

Application of Rayburn Country Electric Cooperative, Inc. to Amend a Certificate of Convenience and Necessity for the Lower Bois d'Arc Water Treatment Line Project in Fannin and Hunt Counties, Texas, SOAH Docket No. 473-18-2500, PUC Docket No. 47884

Application of Electric Transmission Texas, LLC to Amend Certificates of Convenience and Necessity for the Stewart Road 345-kV Transmission Line in Hidalgo County, SOAH Docket No. 473-18-3045, PUC Docket No. 47973

Application of Oncor Electric Delivery Company, LLC to Amend a Certificate of Convenience and Necessity for a 345-kV Transmission Line in Crane, Ector, Loving, Reeves, Ward, and Winkler Counties, Texas, SOAH Docket No. 473-18-2800, PUC Docket No. 48095

Joint Application of Rayburn Country Electric Cooperative and Lone Star Transmission LLC to Transfer Load to ERCOT, and For Sale of Transmission Facilities and Transfer of Certification Rights in Henderson and Van Zandt Counties, Texas, PUC Docket No. 48400

Application of South Texas Electric Cooperative, Inc. to Amend its Certificate of Convenience and Necessity for the Proposed Palmas to East Rio Hondo 138-kV Transmission Line in Cameron County, Texas, PUC Docket No. 48490

Application of CenterPoint Energy Houston Electric, LLC to Amend a Certificate of Convenience and Necesity for a 345-kV Transmission Line in Brazoria, Matagorda, and Wharton Counties, SOAH Docket No. 473-19-1857, PUC Docket No. 48629

Joint Application of Sharyland Utilities, LP and City of Lubbock, Acting by and Through Lubbock Power & Light, for a Certificate of Convenience and Necessity for the Proposed Wadsworth to New Oliver to Farmland 345-kV Transmission Line in Lubbock and Lynn Counties and the Proposed Southeast to New Oliver to Oliver 115-kV Transmission Line in Lubbock County, SOAH Docket No. 473-19-2405, PUC Docket No. 48909

Application of AEP Texas Inc. to Amend its Certificate of Convenience and Necessity for the Three Rivers to Borglum to Tuleta 138-kV Transmission Line in Live Oak and Bee Counties, SOAH Docket No. 473-19-5729, PUC Docket No. 49347

Application of AEP Texas Inc. for Authority to Change Rates, SOAH Docket No. 473-19-4421, PUC Docket No. 49494

Application of LCRA Transmission Services Corporation to Amend its Certificate of Convenience and Necessity for the Proposed Mountain Home 138-kV Transmission Line Projects in Gillespie, Kerr, and Kimble Counties, Texas, SOAH Docket No, 473-19-6766, PUC Docket No. 49523

Application of Southwestern Public Service Company for Authority to Change Rates, SOAH Docket No. 473-19-6677, PUC Docket No. 49831

Complaint of Terry and Sara Faubion against Texas-New Mexico Power Company, SOAH Docket No. 473-20-1773, PUC Docket No. 50095

Complaint of Jaime Leonardo Sloss against AEP Texas Inc., SOAH Docket No. 473-20-3116, PUC Docket No. 50284

Application of Rayburn Country Electric, Inc. to Amend its Certificate of Convenience and Necessity for the New Hope 138-kV Transmission Line in Collin County, SOAH Docket No. 473-20-4592, PUC Docket No. 50812

Application of the City of San Antonio, Acting by and Through The City Public Service Board (CPS Energy) to Amend its Certificate of Convenience and Necessity for the Proposed Scenic Loop 138-kV Transmission Line in Bexar County, SOAH Docket No. 473-21-0247, PUC Docket 51023

Application of the City of Lubbock, Acting By and Through Lubbock Power & Light, to Establish Initial Wholesale Transmission Rates and Tariffs, SOAH Docket No. 473-21-0043, PUC Docket No. 51100

Application of Southwestern Electric Power Company for Authority to Change Rates, SOAH Docket No. 473-21-0538, PUC Docket 51415

Application of El Paso Electric Company to Amend its Certificate of Convenience and Necessity for the Pine-to-Seabeck 115-kV Transmission Line in El Paso County, SOAH Docket No. 473-21-1200, PUC Docket 51476

Application of El Paso Electric Company to Amend its Certificate of Convenience and Necessity for the Seabeck-to-San Felipe 115-kV Transmission Line in El Paso County, SOAH Docket No. 473-21-1201, PUC Docket 51480

Application of Sharyland Utilities, L.L.C. for Authority to Change Rates, SOAH Docket No. 473-21-1535, PUC Docket No. 51611

Application of AEP Texas Inc. to Amend its Certificate of Convenience and Necessity for the Angstrom-to-Grissom Double-Circuit 345-kV Transmission Line in Bee, Refugio, and San Patricio Counties, SOAH Docket No. 473-21-2084, PUC Docket 51912

Application of El Paso Electric Company for Advanced Metering System (AMS) Deployment Plan, AMS Surcharge, and Non-Standard Metering Service Fees, SOAH Docket No. 473-21-2607, PUC Docket 52040

Application of Entergy Texas, Inc. to Amend its Certificate of Convenience and Necessity for the Millbend 138-kV Transmission Line Project in Montgomery County, SOAH Docket No. 473-22-0126, PUC Docket 52241

Application of Entergy Texas, Inc. to Amend its Certificate of Convenience and Necessity for the Castle 230-kV Transmission Line Project in Montgomery and Grimes Counties, SOAH Docket No. 473-22-0127, PUC Docket 52304

Application of Oncor Electric Delivery LLC to Amend its Certificate of Convenience and Necessity for the Old Country Switch 345-kV Tap Transmission Line in Ellis County, SOAH Docket No. 473-22-0768, PUC Docket 52455

Application of Southwestern Public Service Company to Amend its Certificate of Convenience and Necessity to Convert Harrington Generating Station from Coal to Natural Gas, SOAH Docket No. 473-22-1073, PUC Docket 52485

Application of AEP Texas, Inc. to Amend its Certificate of Convenience and Necessity for the Angstrom to Naismith Double-Circuit 345-kV Transmission Line in San Patricio County, SOAH Docket No. 473-22-0493, PUC Docket 52656

Application of Oncor Electric Delivery Company, LLC to Amend its Certificate of Convenience and Necessity for the Proposed Ivy League 138-Kilovolt Transmission Line Project in Collin County, SOAH Docket No. 473-22-2156, PUC Docket 53053

Application of Oncor Electric Delivery Company, LLC to Amend its Certificate of Convenience and Necessity for the Old Country Switch 345-kV Tap Transmission Line in Ellis County, SOAH Docket No. 473-22-0768, PUC Docket 52455

Application of AEP Texas, Inc. to Amend its Certificate of Convenience and Necessity for the Goodlett-to-Quanah 138-kV Transmission Line in Hardeman County, SOAH Docket No. 473-22-2155, PUC Docket 52921

Application of Oncor Electric Delivery Company LLC for Authority to Change Rates, SOAH Docket No. 473-22-2695, PUC Docket 53601

Application of Southwestern Electric Power Company for Approval to Amend its Transmission Cost Recovery Factor, SOAH Docket No. 473-23-04811, PUC Docket 54040

Joint Application of AEP Texas Inc. and Electric Transmission Texas, LLC to Amend their Certificates of Convenience and Necessity for the Del Sol-To-Frontera 345-kV Transmission Line Project in Starr and Hidalgo Counties, SOAH Docket No. 473-23-20831, PUC Docket 55001

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David Yoskowitz, Ph.D.
Executive Director

July 19, 2023

Ms. Marisa Wagley
Public Utility Commission
P.O. Box 13326
Austin, TX 78711-3326

RE: PUC Docket No. 55067: Application of Oncor Electric Delivery Company, LLC for a Certificate of Convenience and Necessity for the Proposed Ramhorn Hill Switch – Dunham Switch 345-kilovolt Transmission Line Project in Denton and Wise Counties

Dear Ms. Wagley:

The Texas Parks and Wildlife Department (TPWD) has reviewed the Environmental Assessment and Alternate Route Analysis (EA) received by our office on June 8, 2023, regarding the above-referenced proposed transmission line project.

TPWD is providing input on this proposed project to facilitate the incorporation of beneficial management practices (BMP) during construction, operation, and maintenance that may assist the project proponent in minimizing impacts to the state's natural resources. For tracking purposes, please refer to TPWD project number 50925 in any return correspondence regarding this project.

Under the Texas Parks and Wildlife Code (PWC) §12.0011(b)(2) and (b)(3), TPWD has the authority to provide recommendations and informational comments that will protect fish and wildlife resources to local, state, and federal agencies that approve, license, or construct developmental projects or make decisions affecting those resources. Under PWC §12.0011(c), the Commission has a non-discretionary duty to respond to the recommendations and informational comments filed by TPWD and include any reason it disagrees with or did not act on or incorporate the recommendation or comment.

Now, pursuant to PWC §12.0011(b)(2) and (b)(3), TPWD offers the following comments and recommendations concerning this project.

Project Description

Oncor Electric Delivery Company, LLC (Oncor) is proposing to construct approximately 20 to 23 miles of new double-circuit 345-kilovolt (kV) electric transmission line, to be built on triple-circuit capable structures, between the

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proposed Ramhorn Hill Switch and the proposed Dunham Switch in Denton and Wise Counties. The proposed Ramhorn Hill Switch will be located approximately two miles south of the intersection of United States Highway (US) 287 and State Highway (SH) 114 near Rhome, Texas. The proposed Dunham Switch will be located approximately 1.4 miles southeast of the intersection of US 377 and Farm-to-Market Road (FM) 1171 (regionally known as Cross Timbers Road) in Flower Mound, Texas. The project will be constructed on 120- to 175-foot-tall steel monopole structures within a proposed right-of-way (ROW) width of 100 feet.

Oncor retained Halff Associates, Inc. (Halff) to prepare the EA submitted with Oncor's application for a Certificate of Convenience and Necessity (CCN) for this project. The EA is intended to provide information and address the requirements of Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code, Public Utility Commission of Texas (PUC) Procedural Rules Section 22.52(a)(4), PUC Substantive Rules Section 25.101, and the PUC CCN application form for a proposed transmission line.

Previous Coordination

TPWD provided scoping information and recommendations regarding the preliminary study area for this project to Halff on October 7, 2022. This letter is included in Appendix A of the EA.

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

Proposed Route

Oncor's Recommended Route

According to the EA, Halff evaluated 221 alternative routes, and Oncor filed 74 geographically diverse alternative routes with the CCN application. In addition to reviewing the EA, Oncor considered engineering feasibility, the estimated cost of alternative routes, construction limitations, and other information. Oncor selected Route 179 (Links A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-R4-V2-Z) as the route that best meets the requirements of the Texas Utilities Code Section 37.56 (c)(4)(A)-(D) and the PUC Substantive Rule Section 25.101(b)(3)(B). Oncor's office memorandum, which is included as Attachment No. 7 to the CCN application, discusses Oncor's selection of Route 179. In addition to other significant factors, Oncor lists the following significant natural resource factors which led to the selection of Route 179, excerpted as follows:

- *The length of Route 179 is approximately 21.8 miles, which is only 1.9 miles longer than the shortest among all the filed routes (Route 16) and approximately 1.1 miles shorter than the longest alternative route included in the Application (Route 216 is the longest at approximately 22.9 miles);*
- *Route 179 parallels existing compatible corridors for 23% of its length (including apparent property boundaries). Route 117 possesses the highest percentage parallel to existing corridors (40%) but is longer in route length (22.7 miles) and has a higher number of habitable structures within 500 feet of its centerline (263). Route 221 had the lowest percentage (17%) parallel to existing corridors;*
- *Route 179 crosses 20,248 feet of cropland/hay meadow and crosses 71,051 feet of rangeland pasture. Route lengths crossing cropland/hay meadow varied from 12,347 feet (Route 164) to 36,231 feet (Route 69). Route lengths crossing rangeland pasture varied from 46,458 feet (Route 26) to 76,318 feet (Route 187);*
- *Route 179 crosses 10,126 feet of upland woodlands and has 7,162 feet of its route through riparian areas. Route 26 has the greatest length (15,960 feet) of its route across upland woodlands and Route 28 has the greatest length (15,718 feet) of its route across riparian areas. The Link M5 Corridor Routes contain the greatest length across upland woodlands and riparian areas which are associated with the floodplain of Elizabeth Creek;*
- *Route 179 has no length of its route across potential wetlands (57 of the filed routes cross potential wetlands, with Routes 92 and 218 having the highest crossing length of 849 feet);*
- *Route 179 has 27 streams crossed by its centerline (the greatest number of streams crossed within the filed routes is 33);*
- *The length of Route 179 that is parallel to streams (within 100 feet) is 1,351 feet (the greatest amount of route length parallel to streams within the filed routes is 5,108 feet);*
- *Route 179 has 1,704 feet of its route across lakes or ponds (open waters). Route 185 has the greatest length (2,080 feet) across lakes or ponds of the filed routes;*
- *Route 179 has one known rare/unique plant location within the route right-of-way. Nine of the filed routes have four known rare/unique plant locations within the route right-of-way;*

The EA Table 7-2 presents the environmental data for the 221 alternative routes, and Oncor's routing memorandum includes Table 2 which reduced EA Table 7-2 to present the environmental data only for the 74 routes filed with the CCN. TPWD's review of Table 2 from Oncor's routing memorandum indicates that Oncor's recommended Route 179 will cross the following land uses or ecological resources:

- 20,248 feet of cropland or hay meadow
- 71,051 feet of rangeland pasture
- 10,126 feet of upland woodlands
- Zero feet of parks or recreational areas
- 7,126 feet of riparian areas
- Zero feet of potential wetlands
- 27 streams
- 1,351 feet paralleling streams
- 1,704 feet of lakes or ponds (open waters)
- One known rare/unique plant location within the right-of-way

TPWD's Recommended Route

In addition to the review of the EA and publicly available data, TPWD evaluated potential impacts to fish and wildlife resources and recreational areas using the following criteria from Table 7-2 in the EA and Table 2 of Oncor's routing memorandum:

- Length of alternative route
- Length of route parallel to existing transmission lines
- Length of route parallel to railroads
- Length of route parallel to existing public roads/highways
- Length of route parallel to pipelines
- Length of route across parks and recreational areas
- Length of route across commercial or industrial areas
- Length of route across cropland or hay meadows
- Length of route across rangeland pasture
- Length of route across upland woodlands
- Length of route across riparian areas
- Length of route across potential wetlands
- Number of stream crossings by the route
- Length of route parallel (within 100 feet) to streams
- Length of route across lakes or ponds (open water)

TPWD did not evaluate the routes using *length of route parallel to apparent property boundaries* because the existence of property lines does not always represent a linear disturbance or a break between contiguous tracts of habitat and cannot be used to assume existing habitat fragmentation. TPWD also did not evaluate the routes using *length of route parallel to existing compatible ROW* because this metric includes apparent property boundaries and does not contribute to an understanding of potential impacts to wildlife habitat. Data regarding length across commercial and industrial areas, cropland, hay meadows, and rangeland

pasture indicate minimization of impacts to potential habitats along a route due to the capability of spanning habitats in cropland, hay meadows, and rangeland pasture and due to minimal habitat availability in developed commercial and industrial areas. The following ecological and land use criteria had values of zero for all routes and were not used by TPWD to compare routes: *length of route across agricultural cropland with mobile irrigation systems* and *length of route through known habitat of endangered or threatened species*.

TPWD typically recommends that transmission line routes be located adjacent to previously disturbed areas such as existing utility or transportation ROWs and discourages fragmenting habitat or locating in areas that could directly negatively impact wildlife, including federally and state listed species, while also minimizing the route length. After careful evaluation of the 74 routes filed with the CCN application, TPWD selected **Route 137** (Links A0-A4-B1-B61-B62-C1-C21-C22-C8-C9-E8-F2-F1-F5-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M4-R5-U3-V3-V4-Z) as the route having the least potential to impact fish and wildlife resources. The decision to recommend **Route 137** was based primarily on the following factors that **Route 137**:

- Has a moderate overall length (21.1 miles) (All routes: 20.1 to 22.9 miles)
- Has a portion of ROW parallel to existing transmission lines, railroads, public roads or highways, and pipelines combined (29,577 feet) representing 27% of its route length (All routes: 45,953 feet to 14,866 feet; representing 38% to 13% of route length)
- Crosses commercial and industrial areas, cropland, hay meadow, and rangeland pasture combined for 83% of route length (All routes: 86% to 72%)
- Has the second shortest length across upland woodlands (9,310 feet) (All routes: 8,022 feet to 15,960 feet)
- Has a relatively short length across riparian areas (7,573 feet) (All routes: 4,579 feet to 15,718 feet)
- Along with 17 other routes, crosses zero potential wetlands (All routes: zero to 849 feet)
- Has a moderate number of stream crossings (26) (All routes: 16 to 33)
- Has a relatively short length (1,354 feet) of route parallel (within 100 feet) to streams (All routes: zero feet to 5,108 feet)
- Contains zero known rare/unique plant locations within the ROW (All routes: zero to four)
- Avoids crossing Northwest Independent School District (ISD) Outdoor Learning Center where it crosses Denton Creek.

Denton Creek is the largest creek within the study area, and all routes cross Denton Creek using one of five links: G2, G6, H41, H5, or H6. Link H6 contains the least

impact to upland woodlands and riparian areas at Denton Creek; however, Link H6 crosses Northwest ISD Outdoor Learning Center, a site with wildlife habitat, wetland improvements, and prairie restoration. Link H6 occurs only in Route 142. Elsewhere along Route 142, Route 142 ranks poorly for most natural resource criteria, and TPWD eliminated Route 142 and Link H6 from consideration. Link H5 contains 3,220 feet of potential impacts to upland woodlands and riparian areas combined while also crossing Northwest ISD Outdoor Learning Center for a greater length than Link H6, and TPWD eliminated routes containing Link H5 because of the natural resource impacts at a public nature center. Of the remaining Links crossing Denton Creek, impacts to upland woodlands and riparian areas combined were greatest for Link G2 (5,650 feet). The remaining Links G6 and H41 had moderate impacts to upland woodlands and riparian areas combined (1,866 feet and 3,345 feet, respectively). Overall, Route 137 and Route 179 ranked very similarly and generally exhibited shorter lengths across natural resource criteria than other routes using Links G6 or H41. Of the 28 routes that utilize links G6 or H41, Route 137 crosses the least amount of upland woodlands, riparian areas, potential wetlands, and lakes/ponds combined (18,795 feet of upland woodlands, riparian areas, potential wetlands, and lakes/ponds combined; All Routes: 15,477 feet to 31,345 feet). Route 179 follows with 18,992 feet of upland woodlands, riparian areas, potential wetlands, and lakes/ponds combined. Route 137 crosses 502 feet of the Canyon Falls Club recreational area, and Route 179 does not. However, the Canyon Falls Club is a highly manicured development with concrete parking and sidewalks in the location of proposed Route 179 and exhibits low wildlife value compared to natural areas. Also, because Route 179 crosses a native Mollisol Blackland Prairie that is mapped in the Texas Natural Diversity Database (TXNDD) along Link E6 and Link C6, and Route 137 avoids crossing this prairie, TPWD recommends Route 137 over Route 179.

The EA indicates that the extent of the field investigation included reconnaissance surveys of the study area by visual observation from public roads and public ROW. The EA did not provide sufficient information based on field surveys to determine which route would best minimize impacts to important, rare, and protected species and their associated habitats. Therefore, TPWD's routing recommendation is based solely on the natural resources information provided in the CCN application and the EA, as well as publicly available information examined in a Geographic Information System (GIS).

> **Recommendation:** Of the routes evaluated in the EA and filed with the CCN application, **Route 137** appears to best minimize adverse impacts to natural resources. TPWD recommends the PUC select a route that would minimize adverse impacts to natural resources, such as **Route 137**.

State Regulations: Parks, Public Recreation Areas, Scientific Areas, Wildlife Refuges, or Historic Sites

As indicated in TPWD's October 7, 2022, scoping letter, PWC chapter 26 requires that before a state agency can approve any project that will result in the use or taking of public land designated and used as a park, public recreation area, scientific area, wildlife refuge, or historic site, that a state agency must provide certain notices to the public, conduct a hearing, and render a finding that there is no feasible and prudent alternative and that the project includes all reasonable planning to minimize harm to the property. Additionally, per Section 6(f) of the U.S. Land and Water Conservation Fund Act (LWCF), no public outdoor recreation areas acquired or developed with LWCF assistance can be converted to non-recreational uses without Department of Interior approval. The conversion must be in accordance with the statewide outdoor recreation plan and replaced with other recreation land of reasonable equivalent usefulness and location.

The EA indicates that 52 of the Route Alternatives filed with the CCN would cross parks/recreational areas, and that no parks, recreational areas, scientific areas, wildlife refuges, or historic sites funded by the LWCF were found within the study area.

> **Recommendation:** If the approved route crosses a public park/recreational area, TPWD recommends the PUC adhere to the requirements of PWC chapter 26.

Implementation of Beneficial Management Practices

In general, Halff and Oncor attempted to design route alternatives to minimize project impacts to waterways, floodplains, riparian areas, wetlands, woodlands, and recreational areas, and paralleled existing disturbed corridors, where feasible. Where links were proximal to streams, Halff and Oncor attempted to design crossings to span streams, to avoid multiple meanders, to be aligned perpendicular to the channel, and to allow sufficient space between the top of the bank and any proposed structure locations. Oncor committed to implementing erosion controls during construction, re-establishing vegetation in a timely manner either naturally or with seed in steep areas and obtaining appropriate permits for work within streams if such a permit is necessary.

The EA acknowledged several of TPWD's recommended BMP from TPWD's October 7, 2022, scoping letter; however, there were few commitments that those BMP would be implemented.

To more comprehensively avoid or minimize potential impacts to fish and wildlife resources, TPWD encourages further commitment to implement BMP recommended in TPWD's October 7, 2022, scoping letter.

Recommendation: TPWD recommends Oncor, and the PUC utilize the following BMP, which are more fully described in TPWD's October 7, 2022, letter, when specifically applicable to the project:

- Conduct surveys of the PUC-approved route for federal and state listed species or potential suitable habitat
- Educate employees and contractors of state listed species and species of greatest conservation need (SGCN) that are susceptible to project activities and that potentially occur within the area
- Avoid vegetation clearing during March 15 – September 15 general bird nesting season
    - If unable to avoid vegetation clearing during the bird breeding season, survey for active bird nests and avoid disturbance until fledged
- Proactively install bird flight diverters where transmission lines cross habitats most attractive to birds, e.g. creeks, drainages, wetlands, floodplains
- Use dark-sky friendly lighting practices at lighted facilities, such as substations and switching stations
- Utilize a biological monitor during construction when required by law or permit
- Allow wildlife to safely leave the site on their own, without harassment or harm
- Avoid impacts to SGCN flora and fauna if encountered during project construction, operation, and maintenance activities
- Use wildlife escape ramps in excavated areas, or cover while unattended, and inspect for trapped wildlife prior to backfilling
- Avoid the use of erosion control blankets containing polypropylene fixed-intersection mesh. Erosion control measures utilized for the project should be implemented with consideration for potential impacts to wildlife species
- Report encounters of threatened species, endangered species, and SGCN to the Texas Natural Diversity Database
- If working in inland waters, prepare an Aquatic Resource Relocation Plan and coordinate with TPWD Kills and Spills Team to obtain a *Permit to Introduce Fish, Shellfish or Aquatic Plants into Public Waters*
- If equipment will come in contact with inland waters, prepare and follow an aquatic invasive species transfer prevention plan
- Prepare and follow a revegetation and maintenance plan to monitor, treat, and control terrestrial invasive species within the ROW
- Revegetate and maintain ROW with native vegetation for the benefit of wildlife, including pollinators. A revegetation program should emphasize native species while considering landowner preferences and wildlife needs.

TPWD appreciates the opportunity to review and comment on this EA. If you have any questions, please do not hesitate to contact Environmental Review Biologist Ms. Karen Hardin by email at karen.hardin@tpwd.texas.gov or by phone at (903) 322-5001. Thank you for your favorable consideration.

Sincerely,

John Silovsky
Wildlife Division Director

JS:KH:bdk

cc: Ms. Meredith Longoria
Ms. Laura Zebehazy
Ms. Karen Hardin
Mr. Chris Reily, Regulatory Manager, Oncor, Chris.Reily@oncor.com

SOAH DOCKET NO. 473-23-21216
PUC DOCKET NO. 55067

APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR THE RAMHORN HILL TO DUNHAM 345 KV TRANSMISSION LINE IN DENTON AND WISE COUNTIES	**§**	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

RESPONSE OF ONCOR ELECTRIC DELIVERY COMPANY LLC TO WATKINS' FIRST REQUEST FOR INFORMATION

TO THE HONORABLE PUBLIC UTILITY COMMISSION OF TEXAS:

Oncor Electric Delivery Company LLC ("Oncor") files this response to the aforementioned requests for information.

I. Written Responses

Attached hereto and incorporated herein by reference are Oncor's written responses to the aforementioned requests for information. Each such response is set forth on or attached to a separate page upon which the request has been restated. Such responses are also made without waiver of Oncor's right to contest the admissibility of any such matters upon hearing. Oncor hereby stipulates that its responses may be treated by all parties exactly as if they were filed under oath.

II. Inspections

In those instances where materials are to be made available for inspection by request or in lieu of a written response, the attached response will so state. For those materials that a response indicates are voluminous, materials will be provided in electronic format through an Oncor FTP file sharing site upon request. Requests for voluminous materials should be directed to Regulatory@oncor.com. To review materials that a response indicates may be inspected at their usual repository, please call Joni Price at 214-486-2844. Inspections will be scheduled so as to accommodate all such requests with as little inconvenience to the requesting party and to company operations as possible.

Respectfully submitted,

By: */s/ Jared M. Jones*

Jaren A. Taylor
State Bar No. 24059069
Winston P. Skinner
State Bar No. 24079348
Jared M. Jones
State Bar No. 24117474

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ATTORNEYS FOR ONCOR ELECTRIC DELIVERY COMPANY LLC

CERTIFICATE OF SERVICE

It is hereby certified that a copy of the foregoing has been filed with the Commission and served on all parties of record via the PUC Interchange, as well as via e-mail on all parties from whom any action is required, pursuant to SOAH Order No. 2 filed in this docket, on this the 19th day of July, 2023.

/s/ Michele M. Gibson

Request

Please provide a complete electronic copy of the Geographic Information System (GIS) Geodatabase and Shapefiles used in the development of the Environmental Assessment and Alternative Route Analysis (Attachment 1 of the Application).

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak, the sponsoring witness for this response.

The electronic native files requested are being provided to the propounding party by email. Any other party may request access to the native files by sending a request to Regulatory.oncor.com.

Request

Please provide a copy of all aerial photography used in the development of the Application. If included within the Geodatabase, provide all aerial photography electronically as part of the Geodatabase.

Response

This request has been withdrawn by the requesting party.

Request

Please provide in electronic format, preferably in Microsoft Excel format, a table similar to Table 2, Environmental Data for Filed Routes in the CCN Application, which is contained in Application Attachment 1, but for segments.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak, the sponsoring witness for this response.

Responsive information was previously provided in Oncor's response to DHL Supply Chain's RFI Set No. 1, Question No. 1-03.

Request

Please provide a complete electronic copy, preferably in Microsoft Excel format, of the cost model utilized to create the estimated costs shown in Attachment 3 of the Application. Please leave all formulae and links intact. In addition, please provide a detailed explanation of the methodology utilized to arrive at the costs shown in Attachment 3 of the Application.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

The cost model spreadsheet, which is included in Excel format as Native file 1 – Cost Model and will be provided to the propounding party on the Oncor FTP site, was used to create the estimated costs shown in Application Attachment 3. Based on an agreement with the requesting party, the scope of Oncor's response is limited to non-proprietary data to avoid production of certain highly sensitive information on raw materials, commodities, and specific labor costs. Thus, Oncor will provide a cost model spreadsheet that redacts, excludes, or genericizes any specific information on such costs. The information provided will also exclude or redact certain proprietary, trade secret, and competitively sensitive commercial information.

These cost estimates were developed based on Oncor's current material and labor costs, and on Oncor's previous experience constructing similar electric transmission projects in this area of Texas. These cost estimates are conceptual, insofar as they are not supported by, and do not incorporate, any site-specific design requirements that can only be determined after on-the-ground surveying, geotechnical investigations, subsurface utility engineering ("SUE") investigations, etc., have been completed and after preparation of detailed engineered drawings. For each route, the quantity and type of structures required were estimated based on the link composition, link length, and the estimated size of the turning angles. Other costs were estimated using Oncor's current labor and contractor costs and Oncor's best estimate of the right-of-way and associated costs needed to safely and reliably construct and operate the project, based on the length of each route and the presence of any known constraints.

The information requested is highly sensitive confidential information and will be made available after execution of a certification to be bound by the protective order in this docket. The requested information is included in Native File 1 and is being provided to the propounding party on the Oncor FTP site and will be made available to other parties upon request.

ELECTRONIC FILE:

Native file 1 – Cost model.xlsx (HSPM)

Request

Please provide, in electronic format, the type (e.g., tangent, angle, dead end, etc. for steel monopole, H frame, lattice, etc. type construction) of structures used on each route and also the quantity of each structure type used on each route. Also, for each structure type provided, please provide a cost estimate of a single structure.

Response

This request has been withdrawn by the requesting party..

Request

Please provide a copy of each Open House Questionnaire from all open house meetings, and subsequent mail-ins, received in the development of the Application.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

The requested information is Voluminous and is being provided to the propounding party on Oncor's FTP site. Pursuant to Oncor's agreement with the requesting party, Oncor is providing a copy of each Open House Questionnaire and subsequent mail-ins received in the development of the Application. For municipalities or organizations whose members provided form comments or petition-style comments that were substantively identical, Oncor is providing a sample copy of the comment form. The approximate number of each set of form/petition-style comments Oncor received is provided in Section 5.1.1 of the Environmental Assessment. Any other party may request access to the native files responsive to this request by sending an email to Regulatory@oncor.com.

ATTACHMENT:

Attachment 1 – Voluminous Index – 1 page

VOLUMINOUS INDEX

1. Emails - December 7, 2022 – 162 pages
2. Emails – December 7, 2022 – 270 pages
3. Emails as of January 18, 2023 (Unique Response) - 798 pages
4. Emails as of January 23, 2023 – 660 pages
5. Emails as of December 16, 2022 – 165 pages
6. Emails as of December 19, 2022 – 597 pages
7. Emails as of December 20, 2022 – 295 pages
8. Emails as of December 22, 2022 – 556 pages
9. Emails with graphics – 56 pages
10. Petition Style Samples – 31 pages

Request

Please provide any summaries, including tabular data, and all other documents related to the Open House Questionnaires from all open house meetings and subsequent mail-ins. If entered into an electronic format, please provide in an electronic format, preferably in Microsoft Excel.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

Summaries of the Open House Questionnaires and subsequent mail-ins are provided in Section 5.1.1 of the Environmental Assessment. Tabular data regarding the Open House Questionnaires received at the public open house meeting is being provided in its native Excel format in the .zip file for this response on the PUC Interchange.

ELECTRONIC FILE:

Native file 1 – Attendance and questionnaire count (Excel)

Request

Please consider an alternate route, named "Route 179-A," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-R4-**V1-V3-V4**-Z.

a. Please provide Oncor's best available estimate of the route evaluation criteria for this alternative route in the same format as Table 2, Environmental Data for Filed Routes in the CCN Application, which is contained in Application Attachment 1, Environmental Assessment and Alternative Route Analysis.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

See below for the requested information.

Alternative Route Number	**179-A**
Length of alternative route	114,174
Length of route parallel to existing electric transmission lines	5,227
Length of route parallel to railroads	4,261
Length of route parallel to existing public roads/highways	8,040
Length of route parallel to pipelines	7,636
Length of route parallel to apparent property boundaries	25,094
Total length of route parallel to existing compatible rights-of-way	30,322
Number of habitable structures within 500 feet of the route centerline	100
Number of parks or recreational areas within 1,000 feet of the route centerline	4
Length of the route across parks/recreational areas	0
Length of route through commercial/industrial areas	4,617
Length of the route across cropland/hay meadow	20,248
Length across rangeland pasture	69,522
Length of route across agricultural cropland with mobile irrigation systems	0
Length of route across upland woodlands	10,731
Length of route across riparian areas	6,913
Length of route across potential wetlands	0
Number of stream crossings by the route	25
Length of route parallel to streams (within 100 feet)	695
Length across lakes or ponds (open waters)	2,143
Number of known rare/unique plant locations within the right-of-way	1

Length of route through known habitat of endangered or threatened species	0
Number of recorded cultural resource sites crossed by the route	1
Number of recorded cultural resources within 1,000 feet of the route centerline	3
Length of route across areas of high archaeological/historical site potential	36,864
Number of private airstrips within 10,000 feet of the route centerline	0
Number of FAA-registered airports with at least one runway more than 3,200 feet in length within 20,000 feet of route centerline	3
Number of FAA-registered airports with no runway greater than 3,200 feet in length within 10,000 feet of the route centerline	4
Number of heliports located within 5,000 feet of the route centerline	2
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	1
Number of U.S. or State Highway crossings by the route	19
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	10
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways	49,335
Estimated length of right-of-way within foreground visual zone of park/recreational areas	41,157

Request

Please consider an alternate route, named "Route 179-A," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-R4-**V1-V3-V4**-Z.

b. Please provide Oncor's best available cost estimates for this alternative route in the same format as the cost estimates provided in Application Attachment 3 – Cost Estimates.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

See below for the requested information.

	Route 179-A
Right-of-way and Land Acquisition	$ 56,587,000
Engineering and Design (Utility)	$ 307,000
Engineering and Design (Contract)	$ 6,078,000
Procurement of Material and Equipment (including stores)	$ 60,912,000
Construction of Facilities (Utility)	$ -
Construction of Facilities (Contract)	$ 51,527,000
Other (all costs not included in the above categories)	$ -
Estimated Total Transmission Line Cost	**$ 175,411,000**
Estimated Oncor Substation Facilities Cost	$ 74,858,000
Estimated Total Project Cost	**$ 250,269,000**

Request

Please consider an alternate route, named "Route 179-A," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-R4-**V1-V3-V4-**Z.

c. If Oncor is not willing to construct its proposed transmission line on this alternative route, please explain in detail why not.

Response

The following response is prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

Oncor does not object to this route.

Request

Please consider an alternate route, named "Route 179-B," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-**R3-R5-U3-V3-V4**-Z.

a. Please provide Oncor's best available estimate of the route evaluation criteria for this alternative route in the same format as Table 2, Environmental Data for Filed Routes in the CCN Application, which is contained in Application Attachment 1, Environmental Assessment and Alternative Route Analysis.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

See below for the requested information.

Alternative Route Number	179-B
Length of alternative route	116,750
Length of route parallel to existing electric transmission lines	5,227
Length of route parallel to railroads	0
Length of route parallel to existing public roads/highways	6,591
Length of route parallel to pipelines	7,636
Length of route parallel to apparent property boundaries	20,438
Total length of route parallel to existing compatible rights-of-way	25,665
Number of habitable structures within 500 feet of the route centerline	98
Number of parks or recreational areas within 1,000 feet of the route centerline	4
Length of the route across parks/recreational areas	0
Length of route through commercial/industrial areas	4,511
Length of the route across cropland/hay meadow	20,248
Length across rangeland pasture	73,219
Length of route across agricultural cropland with mobile irrigation systems	0
Length of route across upland woodlands	10,115
Length of route across riparian areas	6,949
Length of route across potential wetlands	0
Number of stream crossings by the route	25
Length of route parallel to streams (within 100 feet)	695
Length across lakes or ponds (open waters)	1,708
Number of known rare/unique plant locations within the right-of-way	1
Length of route through known habitat of endangered or threatened species	0

Number of recorded cultural resource sites crossed by the route	1
Number of recorded cultural resources within 1,000 feet of the route centerline	3
Length of route across areas of high archaeological/historical site potential	37,915
Number of private airstrips within 10,000 feet of the route centerline	0
Number of FAA-registered airports with at least one runway more than 3,200 feet in length within 20,000 feet of route centerline	3
Number of FAA-registered airports with no runway greater than 3,200 feet in length within 10,000 feet of the route centerline	4
Number of heliports located within 5,000 feet of the route centerline	2

Request

Please consider an alternate route, named "Route 179-B," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-**R3-R5-U3-V3-V4-**Z.

b. Please provide Oncor's best available cost estimate for this alternative route in the same format as the cost estimates provided in Application Attachment 3 – Cost Estimates.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

See below for the requested information.

	Route 179-B
Right-of-way and Land Acquisition	$ 57,055,000
Engineering and Design (Utility)	$ 315,000
Engineering and Design (Contract)	$ 6,160,000
Procurement of Material and Equipment (including stores)	$ 62,243,000
Construction of Facilities (Utility)	$ -
Construction of Facilities (Contract)	$ 52,729,000
Other (all costs not included in the above categories)	$ -
Estimated Total Transmission Line Cost	**$ 178,502,000**
Estimated Oncor Substation Facilities Cost	$ 74,858,000
Estimated Total Project Cost	**$ 253,360,000**

Request

Please consider an alternate route, named "Route 179-B," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M2-M3-**R3-R5-U3-V3-V4**-Z.

c. If Oncor is not willing to construct its proposed transmission line on the alternative route, please explain in detail why not.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

Oncor does not object to this route.

Request

Please consider an alternate route, named Route 179-C," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M5-R2-R5-U3-V3-V4-Z.

a. Please provide Oncor's best available estimate of the route evaluation criteria for this alternative route in the same format at Table 2, Environmental Data for Filed Routes in the CCN Application, which is contained in Application Attachment 1, Environmental Assessment and Alternative Route Analysis.

Response

The following response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

See below for the requested information.

Alternative Route Number	**179-C**
Length of alternative route	110,373
Length of route parallel to existing electric transmission lines	5,227
Length of route parallel to railroads	0
Length of route parallel to existing public roads/highways	6,591
Length of route parallel to pipelines	9,440
Length of route parallel to apparent property boundaries	20,438
Total length of route parallel to existing compatible rights-of-way	25,665
Number of habitable structures within 500 feet of the route centerline[1]	98
Number of parks or recreational areas within 1,000 feet of the route centerline[2]	4
Length of the route across parks/recreational areas	0
Length of route through commercial/industrial areas	4,551
Length of the route across cropland/hay meadow	22,691
Length across rangeland pasture	58,417
Length of route across agricultural cropland with mobile irrigation systems	0
Length of route across upland woodlands	11,311
Length of route across riparian areas	11,536
Length of route across potential wetlands	0
Number of stream crossings by the route	28
Length of route parallel to streams (within 100 feet)	695
Length across lakes or ponds (open waters)	1,867
Number of known rare/unique plant locations within the right-of-way	1
Length of route through known habitat of endangered or threatened species	0

Number of recorded cultural resource sites crossed by the route	1
Number of recorded cultural resources within 1,000 feet of the route centerline	3
Length of route across areas of high archaeological/historical site potential	56,753
Number of private airstrips within 10,000 feet of the route centerline	0
Number of FAA-registered airports with at least one runway more than 3,200 feet in length within 20,000 feet of route centerline	3
Number of FAA-registered airports with no runway greater than 3,200 feet in length within 10,000 feet of the route centerline	4
Number of heliports located within 5,000 feet of the route centerline	2
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	2
Number of U.S. or State Highway crossings by the route	19
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	10
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways	63,395
Estimated length of right-of-way within foreground visual zone of park/recreational areas	41,157

Request

Please consider an alternate route, named Route 179-C," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M5-R2-R5-U3-V3-V4-Z.

b. Please provide Oncor's best available cost estimate for this alternative route in the same format as the cost estimates provided in Application Attachment 3 – Cost Estimates.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

See below for the requested information.

	Route 179-C
Right-of-way and Land Acquisition	$ 56,135,000
Engineering and Design (Utility)	$ 297,000
Engineering and Design (Contract)	$ 5,965,000
Procurement of Material and Equipment (including stores)	$ 59,856,000
Construction of Facilities (Utility)	$ -
Construction of Facilities (Contract)	$ 50,491,000
Other (all costs not included in the above categories)	$ -
Estimated Total Transmission Line Cost	**$ 172,744,000**
Estimated Oncor Substation Facilities Cost	$ 74,858,000
Estimated Total Project Cost	**$ 247,602,000**

Request

Please consider an alternate route, named Route 179-C," from the Dunham Switch to Ramhorn Hill Switch station consisting of the following combination of segments: A0-A4-B1-B61-B62-C1-C21-C23-C7-E2-E1-E6-G1-G3-H41-H42-H8-I8-J3-K1-L5-L4-L3-L2-M1-M5-R2-R5-U3-V3-V4-Z.

c. If Oncor is not willing to construct its proposed transmission line on the alternative route, please explain in detail why not.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

Oncor does not object to this route

Request

Using the proposed Modified Segment V3 (attached):

a. Please provide an estimate of the cost difference and route evaluation criteria changes associated with modifying Segment V3 as depicted by the solid white line on the attached aerial image.

Response

The following response was prepared by or under the direct supervision of Amy L. Zapletal, one of the sponsoring witness for this response.

The following information is provided in accordance with Oncor's agreement with the requesting party.

By agreement with the requesting party, the information is being provided subject to the following limitations: Oncor has not investigated these proposed modifications to the same extent as the links filed in its application; Oncor is interpreting Modified V1 and V3 to the best of its ability based on the aerial image attached to the RFI request; any use of Modified Segments V1 or V3 in an approved route would require consent from landowners directly affected by the modification; and the parties agree Oncor does not need to provide any further information on these modified links unless and until Watkins provides evidence of written consent to these modifications from all landowners directly affected by them.

See below for the requested information. Please note that the values for Modified V3 are estimates based on interpretation of aerial imagery.

Alternative Route Number	V3	Modified V3
Length of alternative route	3,545	4,345
Length of route parallel to existing electric transmission lines	0	0
Length of route parallel to railroads	0	0
Length of route parallel to existing public roads/highways	0	0
Length of route parallel to pipelines	0	0
Length of route parallel to apparent property boundaries	0	1,320
Total length of route parallel to existing compatible rights-of-way	0	0
Number of habitable structures within 500 feet of the route centerline	2	0
Number of parks or recreational areas within 1,000 feet of the route centerline	0	0
Length of the route across parks/recreational areas	0	0

Length of route through commercial/industrial areas	636	636
Length of the route across cropland/hay meadow	0	0
Length across rangeland pasture	2,698	2,698
Length of route across agricultural cropland with mobile irrigation systems	0	0
Length of route across upland woodlands	210	210
Length of route across riparian areas	0	0
Length of route across potential wetlands	0	0
Number of stream crossings by the route	0	0
Length of route parallel to streams (within 100 feet)	0	0
Length across lakes or ponds (open waters)	0	0
Number of known rare/unique plant locations within the right-of-way	0	0
Length of route through known habitat of endangered or threatened species	0	0
Number of recorded cultural resource sites crossed by the route	0	0
Number of recorded cultural resources within 1,000 feet of the route centerline	0	0
Length of route across areas of high archaeological/historical site potential	0	0
Number of private airstrips within 10,000 feet of the route centerline	0	0
Number of FAA-registered airports with at least one runway more than 3,200 feet in length within 20,000 feet of route centerline	1	1
Number of FAA-registered airports with no runway greater than 3,200 feet in length within 10,000 feet of the route centerline	0	0
Number of heliports located within 5,000 feet of the route centerline	1	1
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	0	0
Number of U.S. or State Highway crossings by the route	4	4
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	2	2
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways	3,545	3,545
Estimated length of right-of-way within foreground visual zone of park/recreational areas	0	0

Estimated Cost	$4,378,000	$5,684,000

Request

Using the proposed Modified Segment V3 (attached):

b. Please confirm that any route using Modified Segment V3 instead of the original Segment V3 would be viable, feasible, acceptable from an environmental and land use perspective, and conform to the Commission's policy of prudent avoidance. If you cannot conform, please explain why.

Response

This response was prepared by or under the direct supervision of Russell J. Marusak and Brenda J. Perkins, the sponsoring witnesses for this response.

The following response is provided in accordance with Oncor's agreement with the requesting party in lieu of the initially requested information. By agreement with the requesting party, the information is being provided subject to the following limitations: Oncor has not investigated these proposed modifications to the same extent as the links filed in its application; Oncor is interpreting Modified V1 and V3 to the best of its ability based on the aerial image attached to the RFI request; any use of Modified Segments V1 or V3 in an approved route would require consent from landowners directly affected by the modification; and the parties agree Oncor does not need to provide any further information on these modified links unless and until Watkins provides evidence of written consent to these modifications from all landowners directly affected by them.

Confirmed.

Request

Using the proposed Modified Segment V3 (attached):

c. Please confirm that using Modified Segment V3 would not require notice to any other landowners or any other owners of habitable structures. If you cannot so confirm, please explain why.

Response

This response was prepared by or under the direct supervision of Amy L. Zapletal, the sponsoring witness for this response.

The following information is provided in accordance with Oncor's agreement with the requesting party in lieu of the initially requested information. By agreement with the requesting party, the information is being provided subject to the following limitations: Oncor has not investigated these proposed modifications to the same extent as the links filed in its application; Oncor is interpreting Modified V1 and V3 to the best of its ability based on the aerial image attached to the RFI request; any use of Modified Segments V1 or V3 in an approved route would require consent from landowners directly affected by the modification; and the parties agree Oncor does not need to provide any further information on these modified links unless and until Watkins provides evidence of written consent to these modifications from all landowners directly affected by them.

Confirmed.

Request

Using the proposed Modified Segment V3 (attached):

d. Please provide updated cost estimates similar to Attachment 3 to the CCN Application for the routes that could utilize Modified Segment V3.

Response

This request has been withdrawn by the requesting party.

Request

Using the proposed Modified Segment V1 (attached):

a. Please provide an estimate of the cost difference and route evaluation criteria changes associated with modifying Segment V1, beginning at the intersections of Segments R4 and V1 and ending at the intersection of Modified Segment V3 and V1 as depicted on the attached aerial image.

Response

This response was prepared by or under the direct supervision of Russell J. Marusak and Amy L. Zapletal, the sponsoring witnesses for this response.

The following information is provided in accordance with Oncor's agreement with the requesting party. By agreement with the requesting party, the information is being provided subject to the following limitations: Oncor has not investigated these proposed modifications to the same extent as the links filed in its application; Oncor is interpreting Modified V1 and V3 to the best of its ability based on the aerial image attached to the RFI request; any use of Modified Segments V1 or V3 in an approved route would require consent from landowners directly affected by the modification; and the parties agree Oncor does not need to provide any further information on these modified links unless and until Watkins provides evidence of written consent to these modifications from all landowners directly affected by them.

See below for the requested information. Please note that the values for Modified V1 are estimates based on interpretation of aerial imagery.

Alternative Route Number	V1	Modified V1
Length of alternative route*	4,261	2,521
Length of route parallel to existing electric transmission lines	0	0
Length of route parallel to railroads*	4,261	2,521
Length of route parallel to existing public roads/highways*	1,449	0
Length of route parallel to pipelines	0	0
Length of route parallel to apparent property boundaries*	4,261	2,521
Total length of route parallel to existing compatible rights-of-way*	4,261	2,521
Number of habitable structures within 500 feet of the route centerline	5	2
Number of parks or recreational areas within 1,000 feet of the route centerline	0	0
Length of the route across parks/recreational areas	0	0

Length of route through commercial/industrial areas*	123	73
Length of the route across cropland/hay meadow	0	0
Length across rangeland pasture*	2,889	1,929
Length of route across agricultural cropland with mobile irrigation systems	0	0
Length of route across upland woodlands*	795	65
Length of route across riparian areas	0	0
Length of route across potential wetlands	0	0
Number of stream crossings by the route	0	0
Length of route parallel to streams (within 100 feet)	0	0
Length across lakes or ponds (open waters)	453	453
Number of known rare/unique plant locations within the right-of-way	0	0
Length of route through known habitat of endangered or threatened species	0	0
Number of recorded cultural resource sites crossed by the route	0	0
Number of recorded cultural resources within 1,000 feet of the route centerline	0	0
Length of route across areas of high archaeological/historical site potential	0	0
Number of private airstrips within 10,000 feet of the route centerline	0	0
Number of FAA-registered airports with at least one runway more than 3,200 feet in length within 20,000 feet of route centerline	0	0
Number of FAA-registered airports with no runway greater than 3,200 feet in length within 10,000 feet of the route centerline	0	0
Number of heliports located within 5,000 feet of the route centerline	0	0
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	0	0
Number of U.S. or State Highway crossings by the route	0	0
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	0	0
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways*	3,860	2,120
Estimated length of right-of-way within foreground visual zone of park/recreational areas	0	0

Estimated Costs	$3,831,000	$2,607,000

*Length reductions result from a reduction in length, not from a modification to an alternate alignment.

Request

Using the proposed Modified Segment V1 (attached):

b. Please confirm that any route using Modified Segment V1 instead of the original Segment V1 would be viable, feasible, acceptable from an environmental and land use perspective, and conform to the Commission's policy of prudent avoidance. If you cannot so confirm, please explain why.

Response

The following response was prepared by or under the direct supervision of Brenda J. Perkins, the sponsoring witness for this response.

The following information is provided in accordance with Oncor's agreement with the requesting party. By agreement with the requesting party, the information is being provided subject to the following limitations: Oncor has not investigated these proposed modifications to the same extent as the links filed in its application; Oncor is interpreting Modified V1 and V3 to the best of its ability based on the aerial image attached to the RFI request; any use of Modified Segments V1 or V3 in an approved route would require consent from landowners directly affected by the modification; and the parties agree Oncor does not need to provide any further information on these modified links unless and until Watkins provides evidence of written consent to these modifications from all landowners directly affected by them.

Confirmed.