Filing Receipt

Filing Date - 2025-03-20 03:55:45 PM

Control Number - 57828

Item Number - 7

PUC DOCKET NO. 57828

DIRECT TESTIMONY
OF AMY L. ZAPLETAL, WITNESS FOR
ONCOR ELECTRIC DELIVERY COMPANY LLC

DIRECT TESTIMONY OF AMY L. ZAPLETAL

I. POSITION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Amy L. Zapletal. I am employed as a Project Manager Senior in the Transmission Engineering Right-of-Way group at Oncor Electric Delivery Company LLC ("Oncor"). My business address is 777 Main Street, Suite 707, Fort Worth, Texas 76102.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL QUALIFICATIONS.

A. I have been employed at Oncor as a Project Manager Senior since June of 2021 and have provided support for the engineering and right-of-way ("ROW") acquisition of numerous projects. Prior to my employment at Oncor, my professional experience was dedicated to project management and utility district engineering consulting services. I am a licensed professional engineer in the State of Texas (License No. 94680). I received a Bachelor of Science degree in civil engineering from Texas A&M University in 2000. My educational and professional qualifications are more fully presented in my resume, which is attached hereto as Exhibit ALZ-1.

Q: HAVE YOU EVER SUBMITTED TESTIMONY BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS ("COMMISSION")?

A: Yes. I provided testimony in Docket Nos. 54733, 55067, 55574, 55575, 56396, 56597, 56799, 57519, 57633, and 57723.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to address certain aspects of Oncor's proposed Drill Hole Switch to El Capitan Switch 345 kilovolt ("kV") transmission line project ("Proposed Transmission Line Project"), including:

- the public participation meeting;
- routing considerations, including Oncor's selected alternative routes, each of which comply with Public Utility Regulatory Act ("PURA")

§ 37.056 of the Texas Utilities Code and the Commission's substantive rules;

- the adequacy of Oncor's selected alternative routes; and
- the notice provided by Oncor pursuant to Commission rules.

The statements and opinions expressed in this testimony are based on: (1) my previously described experience in the evaluation of transmission line routes; (2) my independent review and evaluation of the data included in the *Environmental Assessment and Alternative Route Analysis for the Proposed Drill Hole Switch – El Capitan Switch 345 kV Transmission Line Project in Culberson County, Texas* ("Environmental Assessment and Routing Study"), prepared by Halff Associates, Inc. ("Halff") and included as Attachment No. 1 to the Application; (3) discussions with Oncor personnel; (4) discussions with Halff employees who participated in the development of the Environmental Assessment and Routing Study; (5) observations of the project area during a reconnaissance survey on January 15, 2025, and during a flight reconnaissance survey on February 20, 2025; and (6) my understanding of PURA §§ 37.054 and 37.056 and 16 Texas Administrative Code ("TAC") §§ 22.52 and 25.101 (attached hereto as Exhibits ALZ-2, ALZ-3, ALZ-4, and ALZ-5, respectively); and other factors.

In addition to the testimony offered herein, I sponsor Oncor's responses to Question Nos. 17-19 and 21-29 in the Application, as well as Attachment Nos. 8-14 to the Application filed by Oncor in this docket. The facts and statements set forth in those responses and attachments are true and correct to the best of my knowledge. Oncor will offer the Application and its attachments, as they may be amended and/or supplemented, into evidence in this proceeding.

III. PUBLIC PARTICIPATION MEETING

Q. DID ONCOR HOLD A PUBLIC PARTICIPATION MEETING BEFORE FILING THE APPLICATION?

A. Yes. As discussed in Sections 2.5 and 5.0 of the Environmental Assessment and Routing Study, Oncor hosted a public open-house meeting for the Proposed Transmission Line Project. Because at least 25 landowners were entitled to receive notice of the project based on the preliminary alternative routes, a public meeting was required under TAC § 22.52(a)(4).

Oncor, Halff, and personnel from Integra Realty Resources ("Integra"), a property abstracting contractor for the Proposed Transmission Line Project, attended the meeting. The meeting was held on January 14, 2025, from 5:00 p.m. to 6:30 p.m. at the Reeves County Civic Center in Pecos, Texas.

Q. WHAT WAS THE PURPOSE OF THE PUBLIC PARTICIPATION MEETING?

A. The purpose of the meeting was to solicit comments and input from residents, landowners, public officials, and other interested parties concerning the Proposed Transmission Line Project and the overall transmission line routing process. Such meetings help ensure that the values and concerns of the public are adequately identified and considered. Additionally, Oncor utilized the public meeting process as an opportunity to provide information about the Proposed Transmission Line Project, including the need for the project and the certification process.

Q. HOW DID ONCOR PROVIDE NOTICE OF THE PUBLIC PARTICIPATION MEETING?

A. Notice was sent by first class mail to owners of property crossed by or within 500 feet of the proposed alternative route link centerlines presented for consideration at the public participation meeting. Given the accuracy limitations of appraisal district data and aerial photography, notice was intentionally over-inclusive and was provided to owners of properties within 520 measured feet of any alternative route link centerline. A representative

copy of the notice mailed to property owners regarding the public participation meeting is located in Appendix B of the Environmental Assessment and Routing Study. Oncor also emailed notice of the public participation meeting to the Department of Defense ("DoD") Military Aviation and Installation Assurance Siting Clearinghouse.

Q. DID ONCOR MAIL NOTICE OF THE PUBLIC PARTICIPATION MEETING TO ANYONE ELSE?

A. Yes. Notices were also sent by first class mail or delivered to local officials and various state and federal regulatory agencies regarding the public participation meeting. A representative copy of the notice of the public participation meeting for the Proposed Transmission Line Project can be found in Appendix B of the Environmental Assessment and Routing Study.

Q. WAS ANY OTHER FORM OF NOTICE USED TO ADVERTISE THE PUBLIC PARTICIPATION MEETING?

A. Yes. Notice for the public participation meeting was published on January 2, 2025, in the *Van Horn Advocate*, a newspaper of general circulation in Culberson County. The notice announced the location, time, and purpose of the meeting. A copy of the notice for the public participation meeting can be found in Appendix B of the Environmental Assessment and Routing Study.

Q. PLEASE EXPLAIN THE PUBLIC PARTICIPATION MEETING PROCESS.

A. Oncor held the public participation meeting in an open house format with information stations relating to various aspects of the project's development. Oncor provided packets of information containing frequently asked questions and the responses to those questions, a map showing the location of the preliminary alternative route links, and a questionnaire for interested parties to fill out.

Each station also had exhibits, maps, aerial photography, and/or other information describing certain aspects of the Proposed Transmission

Line Project and was staffed by representatives of Oncor, Halff, and/or Integra. For example, the various stations included information regarding the CCN process, a discussion of the need for the project, property ownership information, preliminary alternative route links and routing constraints, and environmental and engineering considerations.

The various exhibit areas were arranged in order to provide attendees with a sequential approach to the information presented as well as the freedom to visit each of the exhibits in any order they wished and to spend as much time as they desired discussing each topic presented. An area was also set aside with tables and chairs to allow attendees an opportunity to complete their questionnaires in close proximity to the exhibits. In this way, resources were readily available to provide further information on issues requiring additional discussion or clarification.

The information station format was used because it is Oncor's experience that this format allows attendees to learn about the project in a relaxed manner, to focus on issues of most interest to them, and to ask questions of Oncor representatives with knowledge of the various topics presented. Furthermore, this format facilitates more interaction with those attendees who might have been hesitant to participate in a speaker-audience format. This format has been successfully used by Oncor in many CCN proceedings.

Q. HAS ONCOR COMPLIED WITH 16 TAC § 22.52(a)(4) CONCERNING PUBLIC MEETING REQUIREMENTS?

A. Yes.

Q. ASIDE FROM THE PUBLIC PARTICIPATION MEETING, DID ONCOR HAVE FORMAL OR INFORMAL CONTACT WITH OTHER LANDOWNERS ABOUT THE PROJECT PRIOR TO FILING THE APPLICATION?

A. Yes. After the public participation meeting, Oncor received correspondence from Wise Asset Management, Ltd., a developer owning multiple tracts of land in the project area. Oncor then met with the landowner on January 31, 2025, to further discuss the landowner's feedback and information regarding its property and the Proposed Transmission Line Project. Based on the input received at that meeting, Oncor and Halff evaluated and adopted Link F1 as shown in Figure 3-1 of the Environmental Assessment and Routing Study.

IV. ROUTE SELECTION

Q. DID YOU SELECT ALTERNATIVE ROUTES TO BE FILED WITH THE APPLICATION?

A. Yes. As discussed in the response to Question No. 17 of the Application, I selected Route 36 as the route that best meets the requirements of the Texas Utilities Code and the Commission's Substantive Rules. Route 36 is one of the 12 alternative routes I selected for inclusion in the Application. Additional information concerning my analysis of Route 36 and the other filed alternative routes is contained in a memorandum I prepared, which is included as Attachment No. 8 to the Application and as Exhibit ALZ-6 to my direct testimony.

Oncor witness Mr. Shiloh Fraijo explains in his direct testimony that the Proposed Transmission Line Project requires construction of a double-circuit 138 kV tie-line to connect to Drill Hole Switch. As reflected in the Application and Exhibit ALZ-6, this Drill Hole tie-line will be a station asset. Because the configuration of the Drill Hole Switch, and thus the alignment of the Drill Hole tie-line, will not be affected by route selection, the tie-line was not included in the route analysis contained in ALZ-6. Environmental data for the Drill Hole tie-line is, however, included in the Environmental Assessment and Routing Study prepared by Halff for the Proposed Transmission Line Project. The direct testimony of Oncor witness Mr.

Russell J. Marusak, of Halff, provides further discussion regarding the preparation of the Environmental Assessment and Routing Study.

Q. PLEASE DESCRIBE SOME OF THE KEY ATTRIBUTES OF THE 12 FILED ALTERNATIVE ROUTES.

A. Each of the 12 alternative routes included in the Application comply with PURA § 37.056(c)(4)(A)-(D) and 16 TAC § 25.101, including the Commission's policy of prudent avoidance, and were developed in compliance with 16 TAC § 22.52(a)(4). The filed alternative routes provide geographic diversity and an adequate number of alternative routes to conduct a proper evaluation. In addition, each of the alternative routes were judged as feasible from an engineering perspective, based on presently known conditions and constraints. All 12 alternative routes meet all of the statutory and regulatory requirements and are acceptable to Oncor, though, as I discuss below, Route 36 is the route that I believe best meets the applicable routing factors.

Q. WHY DID YOU SELECT ROUTE 36 AS THE "BEST-MEETS" ROUTE?

A. My selection of Route 36, which consists of links E11-E12-G1-G2-H3-K2-N1-Z, is based on the criteria established in PURA § 37.056(c)(4)(A)-(D), 16 TAC § 25.101 (including the Commission's policy of prudent avoidance), the Commission's CCN application form, the information provided to me by Oncor witness Mr. Fraijo regarding cost estimates and engineering constraints, the information included in the Environmental Assessment and Routing Study, and my personal reconnaissance of the study area. As presented in the Application, I also recommend that the Commission consider the 11 additional alternative routes as potential alternatives to Route 36. All 12 of the routes included in the Application comply with the routing requirements of PURA § 37.056(c)(4)(A)-(D) and 16 TAC § 25.101.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR SELECTION OF ROUTE 36.

A. Halff provided me with information on 37 alternative routes in the Environmental Assessment and Routing Study. After analyzing those 37 alternative routes, I recommended filing 12 of those routes with the Application for the Commission's consideration. In addition to geographic differences, the more significant differences between the 12 filed alternative routes are route lengths and costs. Route lengths for the filed alternative routes range from approximately 21.0 miles to approximately 28.2 miles. The estimated project costs for the filed alternative routes, excluding station costs, range from approximately $97,468,000 to $134,595,000. Oncor witness Mr. Fraijo discusses the breakdown of costs, including transmission line costs versus station costs, in his direct testimony.

Given the balance of the factors, I selected Route 36 as the route that best meets the requirements of PURA § 37.056(c)(4)(A)-(D) and 16 TAC § 25.101. Specifically, this route, as compared to the other filed alternative routes included in the Application:

- is approximately 21.23 miles in length, which is only 0.20 miles longer than the shortest alternative route included in the Application and approximately 7.00 miles shorter than the longest alternative route;
- has an estimated transmission line cost of $97,468,000, which is the least expensive alternative route, and is approximately 38.1% less than the most expensive alternative route; and
- has no habitable structures within 500 feet of its centerline, the same as all the other alternative routes.

In addition, Route 36 was judged to be feasible from an engineering perspective based on currently known conditions, without the benefit of on-the-ground surveys, as further discussed in the direct testimony of Oncor witness Mr. Fraijo.

Q. DOES ROUTE 36 COMPLY WITH PURA § 37.056(c)(4)(A)-(D) AND 16 TAC § 25.101(b)(3)(B)?

A. Yes. The Route 36 complies with PURA § 37.056(c)(4)(A)-(D) and 16 TAC § 25.101(b)(3)(B), including the Commission's policy of prudent avoidance. The Proposed Transmission Line Project does not significantly impact community values, park and recreational areas, historical and aesthetic values, or the environmental integrity of the area that Route 36 traverses. Route 36 limits exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort, and gives adequate consideration to the utilization and paralleling of existing compatible ROW. Route 36 does not significantly impact communication facilities, airports or heliports, cropland irrigated by traveling irrigation systems, or known cultural resource sites. The proposed project was routed to minimize the impact on all directly affected landowners.

Q. ARE YOU FAMILIAR WITH THE COMMISSION'S "POLICY OF PRUDENT AVOIDANCE"?

A. Yes, I am.

Q. BRIEFLY DESCRIBE YOUR UNDERSTANDING OF THE COMMISSION'S POLICY OF PRUDENT AVOIDANCE.

Prudent avoidance is defined in 16 TAC § 25.101 as "the limiting of exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort." My understanding of the Commission's policy of prudent avoidance is that the process of routing a proposed transmission line should include consideration of routing options that will reasonably avoid population centers and other locations where people gather. This does not mean that a proposed transmission line must avoid habitable structures at all costs, but that reasonable alternatives should be considered. Nonetheless, as mentioned above, none of the 12

alternative routes included in the Application have centerlines within 500 feet of a habitable structure.

Q. DO THE ALTERNATIVE ROUTES ADHERE TO THE COMMISSION'S POLICY OF PRUDENT AVOIDANCE?

A. Yes, all 12 alternative routes included in the Application comply with the Commission's policy of prudent avoidance.

V. ADEQUACY OF ROUTES

Q. DOES THE APPLICATION CONTAIN AN ADEQUATE NUMBER OF ALTERNATIVE ROUTES TO CONDUCT A PROPER EVALUATION?

A. Yes. Visual inspection of Figure 3-1 (Appendix E) in the Environmental Assessment and Routing Study shows the nature of the project area. Within this area, Oncor's Application includes 12 reasonably differentiated and geographically diverse alternative routes that are reasonably forward-progressing given the area constraints and are consistent with the relevant provisions of PURA and the Commission's Substantive Rules.

Based on my professional experience, my visual inspection of the area on reconnaissance visits, and my detailed review and evaluation of the data presented in the Environmental Assessment and Routing Study, the Application contains an adequate number of alternative routes to conduct a proper evaluation. Thus, the adequacy of the routing options provided by Oncor in its Application is demonstrated both by the number of options presented to the Commission and the geographic diversity present among these options.

Q. WERE ALL PRELIMINARY ALTERNATIVE ROUTE LINKS DEVELOPED BY HALFF UTILIZED IN YOUR SELECTION OF ALTERNATIVE ROUTES?

A. Yes.

VI. NOTICE

Q. HAS ONCOR PROVIDED NOTICE OF THE FILING OF THIS APPLICATION AS REQUIRED BY THE COMMISSION'S PROCEDURAL RULES?

A. Yes. Public notice of the Application will be published in the *Van Horn Advocate*, a newspaper of general circulation in Culberson County. A publisher's affidavit attesting to the publication of this notice will be attached to an affidavit from Oncor attesting to the provision of newspaper notice.

On the date the Application is filed with the Commission, Oncor will also provide notice in the following ways:

- mail written notice of the Application (in the form required by the Commission) to each landowner of record, according to current county tax rolls, that would be directly affected (as defined in 16 TAC § 22.52(a)(3)) by the Commission's approval of the Application along any of the alternative routes;
- mail written notice of the Application to each owner of property adjacent to or across a highway, road, or street adjacent to the new El Capitan Switch property and Drill Hole Switch property pursuant to PURA § 37.054(c);
- mail written notice of the Application to the county judge and county commissioners of Culberson County, the only county where any portion of the proposed facilities will be located;
- email and mail written notice of the Application, with attached map, to the DoD Military Aviation and Installation Assurance Siting Clearinghouse (formerly the Siting Clearinghouse) at the email and physical addresses shown in the Application; and
- mail a copy of the Application and its attachments to the Texas Office of Public Utility Counsel.

Oncor will also mail a copy of the Application with attachments, including the Environmental Assessment and Routing Study, to the Texas Parks and Wildlife Department within seven days of the Application's filing.

Q. WILL ONCOR PROVIDE ANY NOTICES OF THE FILING OF THE APPLICATION IN ADDITION TO THE NOTICES REQUIRED BY THE COMMISSION'S PROCEDURAL RULES?

A. Yes. In the form required by the Commission, Oncor will mail written notice of the Application to each owner of record, according to current county tax rolls, of property within 520 feet of the centerline of all filed routes, irrespective of whether a habitable structure is located on such properties. Oncor is intentionally over-inclusive in mailing written notice of the Application to landowners.

Q. WHICH PROPERTY OWNERS WILL RECEIVE NOTICE OF THE PROPOSED TRANSMISSION LINE PROJECT PURSUANT TO PURA § 37.054(c)?

A. As mentioned above, Oncor will mail written notice of the Application to each owner of property adjacent to or across a highway, road, or street adjacent to the new El Capitan Switch property and Drill Hole Switch property.

The following tracts of land are located adjacent to or across from a highway, road, or street adjacent to the new property at the El Capitan endpoint: Tract Nos. 150, 151, 152, 154, 155, 155.1, 155.2, 155.3, and 155.4. Of these, the only property owners that will receive notice solely through PURA § 37.054(c) are the owners of Tract Nos. 155.1, 155.2, 155.3, and 155.4, which are not within 520 feet of a filed route's centerline.

The following tracts of land are located adjacent to or across from a highway, road, or street adjacent to the new property at the Drill Hole endpoint: Tract Nos. 8, 9, 11, 12, 13, 16.2, 32, and 33. Of these, the only property owner that will receive notice solely through PURA § 37.054(c) is

the owner of Tract No. 9, which is not within 520 feet of a filed route's centerline. While not identified on Figure 3-1 of the Environmental Assessment and Routing Study, Tract No. 9 is located directly north of the 345 kV switchyard at Drill Hole Switch.

Oncor will mail written notice to the owners of each of the properties identified in this response, including Tract No. 9, in compliance with PURA § 37.054(c).

Q. WILL ONCOR'S PROVISION OF NOTICE FOR THE PROPOSED TRANSMISSION LINE PROJECT COMPLY WITH 16 TAC § 22.52(a)?

A. Yes. Oncor will file affidavits in the docket attesting to the provision of notice in compliance with 16 TAC § 22.52.

VII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

AFFIDAVIT

STATE OF TEXAS §
§
COUNTY OF TARRANT §

BEFORE ME, the undersigned authority, on this day personally appeared Amy L. Zapletal who, having been placed under oath by me, did depose as follows:

My name is Amy L. Zapletal. I am of legal age and a resident of the State of Texas. The foregoing testimony and exhibits offered by me are true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true and correct.

Amy L. Zapletal

Amy L. Zapletal

SUBSCRIBED AND SWORN TO BEFORE ME on this 20th day of March, 2025.

Terri Watts

Notary Public, State of Texas

My Commission Expires
07-07-2028

TERRI WATTS
Notary Public, State of Texas
Comm. Expires 07-07-2028
Notary ID 1129360-0

AMY L. ZAPLETAL, P.E.

Oncor Electric Delivery Company • 777 Main Street, Suite 707 • Fort Worth, TX 76102

Amy.Zapletal@oncor.com

Professional Experience

ONCOR ELECTRIC DELIVERY COMPANY, TRANSMISSION ENGINEERING **6/2021 to Present**
Right-of-Way Project Manager Sr. **Fort Worth, TX**

- Provide overall project management for assigned projects including contractor oversight and direction, budget and schedule adherence, communication and consultation with key stakeholders on emergent issues, while supporting Legal and Regulatory throughout
- Provide consultation and expertise on ROW matters that impact maintenance and capital transmission projects
- Oversee ROW acquisition including landowner negotiations, addressing associated financial and schedule constraints
- Support ROW acquisition activities including mediation, settlement negotiations, and trial support throughout condemnation and appeals processes
- Assist in coordinating, prioritizing, and communicating schedule and scoping changes related to ROWon capital transmission projects
- Facilitate and manage Special Project assignments on an as-needed basis
    - Engineering Witness for greenfield capital transmission line projects
    - Lead team of transmission line and station engineers to successfully scope and estimate project schedules and costs for a portfolio of related capital projects
    - Support related future ROW acquisition efforts as Engineering Witness during condemnation hearings

INDEPENDENT CONSULTANT **7/2012 to 6/2021**
Project Manager **Texas**

- Develop design documents and construction plan sets, technical specifications and manuals, contract documents, and obtain City approvals of preliminary / final plats
- Procure and manage professional services provided by client's external consultants
- Supervise preparation of developer receivables summaries for municipal utility district ("MUD") financial planning and annual audits
- Research and analyze Summary of Costs to calculate bond funding requirements, incorporating the financial feasibility recommendations by the MUD's Financial Advisor, to achieve construction goals without property tax or customer rate increases
- Compile Engineering Reports, Attachments, and TCEQ Construction Contract Check Lists
- Coordinate with client's Production Manager for exhibits created in AutoCAD or GIS
- Facilitate TCEQ application submittal, reproduction, distribution, and archive of documents
- Effectively communicate project status updates with supporting documentation for monthly Board of Directors meeting reports
- Organize financial documentation and collaborate with MUD's Bookkeeper and Auditor during development reimbursement audits and fiscal year operating budget projections

BGE, INC. (FORMERLY BROWN & GAY ENGINEERS, INC.) **11/2002 to 5/2012**
Project Manager / Project Engineer / Graduate Engineer **Houston, TX**

Dedicated Project Manager with excellent technical, analytical, communication and client relationship skills with land development experience including project management, design and construction of various single-family residential subdivision projects and of facility expansion and rehabilitation projects

- Provide feasibility, design, project management and construction administration services to multiple MUD and land development clients
- Utility District administration including direct client communication; project status reporting; coordination with clients' external consultants; capacity demand planning and customer commitments; and commercial development plan reviews
- Facilitate final design, cost estimates, specifications, bid documents and construction administration for water, wastewater, storm drainage, paving, and various utility facility expansion and rehabilitation projects
- Coordinate with property owners and/or legal condemnation counsel to acquire necessary easements or sites for infrastructure extensions or expansions
- Assist condemnation counsel with exhibits, project schedule and cost analysis for use in mediation or in settling disputes
- Collaborate with client, engineering support staff, and construction contractors for facility condition assessments; for project phasing feasibility and budgeting; and for resolutions to special construction constraints or limitations
- Implement CIP for asset management, funding projections, and annual revenue requirements
- Collaborate and provide training within the Districts Services Group, specializing in consulting services for mature MUDs
- Anticipate and coordinate requests to the TCEQ for compliance approvals of alternative service requirements for public water systems with more than 2,500 connections
- Supervise preparation of Expedited and Non-Expedited Bond Application Reports, Emergency Project Requests, and other special Utility District applications submitted to TCEQ
- Advise fellow / Senior Project Managers on regulatory requirements and conduct internal reviews to determine compliance with time-sensitive Expedited Bond Application Reports prior to submittal to TCEQ

CARTER & BURGESS, INC. **5/2000 to 11/2002**
Graduate Engineer **Houston, TX**

Assist Project Managers with design and AutoCAD production of final construction plan sets for water, wastewater, paving and storm drainage to serve single-family residential subdivisions

Education and Licenses

Bachelor of Science in Civil Engineering - Texas A&M University, August 2000
Licensed Professional Engineer No. 94680 - State of Texas
TBPELS Firm Registration No. F-15098 - State of Texas

Sec. 37.054. NOTICE AND HEARING ON APPLICATION. (a) When an application for a certificate is filed, the commission shall:

(1) give notice of the application to interested parties and to the office; and

(2) if requested:

(A) set a time and place for a hearing; and

(B) give notice of the hearing.

(b) A person or electric cooperative interested in the application may intervene at the hearing.

(c) In addition to any notice provided under Subsection (a), the commission shall require the applicant to provide written notice of each substation proposed to be authorized by a certificate of convenience and necessity to each owner of:

(1) property adjacent to the property on which the substation will be located; and

(2) property located directly across a highway, road, or street that is adjacent to the property on which the substation will be located.

Acts 1997, 75th Leg., ch. 166, Sec. 1, eff. Sept. 1, 1997. Amended by Acts 1999, 76th Leg., ch. 405, Sec. 31, eff. Sept. 1, 1999.
Amended by:

Acts 2011, 82nd Leg., R.S., Ch. 416 (S.B. 855), Sec. 2, eff. June 17, 2011.

Acts 2023, 88th Leg., R.S., Ch. 1053 (S.B. 365), Sec. 1, eff. September 1, 2023.

Sec. 37.056. GRANT OR DENIAL OF CERTIFICATE. (a) The commission may approve an application and grant a certificate only if the commission finds that the certificate is necessary for the service, accommodation, convenience, or safety of the public.

(b) The commission may:

(1) grant the certificate as requested;

(2) grant the certificate for the construction of a portion of the requested system, facility, or extension or the partial exercise of the requested right or privilege; or

(3) refuse to grant the certificate.

(c) The commission shall grant each certificate on a nondiscriminatory basis after considering:

(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) the need for extending transmission service where existing or projected electrical loads will be underserved, including where:

(i) the existing transmission service is unreasonably remote;

(ii) the available capacity is unreasonably limited at transmission or distribution voltage level; or

(iii) the electrical load cannot be interconnected in a timely manner.

(c-1) In considering the need for additional service under Subsection (c)(2) for a reliability transmission project that serves

the ERCOT power region or under Subsection (c)(4)(F), the commission must consider the historical load, forecasted load growth, and additional load currently seeking interconnection, including load for which the electric utility has yet to sign an interconnection agreement, as determined by the electric utility with the responsibility for serving the load.

(d) The commission by rule shall establish criteria, in addition to the criteria described by Subsection (c), for granting a certificate for a transmission project that serves the ERCOT power region and that is not necessary to meet state or federal reliability standards. The criteria must include a comparison of the estimated cost of the transmission project for consumers and the estimated congestion cost savings for consumers that may result from the transmission project, considering both current and future expected congestion levels and the transmission project's ability to reduce those congestion levels. The commission shall include with its decision on an application for a certificate to which this subsection applies findings on the criteria.

(e) A certificate to build, own, or operate a new transmission facility that directly interconnects with an existing electric utility facility or municipally owned utility facility may be granted only to the owner of that existing facility. If a new transmission facility will directly interconnect with facilities owned by different electric utilities or municipally owned utilities, each entity shall be certificated to build, own, or operate the new facility in separate and discrete equal parts unless they agree otherwise.

(f) Notwithstanding Subsection (e), if a new transmission line, whether single or double circuit, will create the first interconnection between a load-serving station and an existing transmission facility, the entity with a load-serving responsibility or an electric cooperative that has a member with a load-serving responsibility at the load-serving station shall be certificated to build, own, or operate the new transmission line and the load-serving station. The owner of the existing transmission facility shall be certificated to build, own, or operate the station or tap at the existing transmission facility to provide the interconnection, unless after a reasonable period of time the owner of the existing transmission facility is unwilling to build, and then the entity with the load-serving responsibility or an electric cooperative that has a

member with a load-serving responsibility may be certificated to build the interconnection facility.

(g) Notwithstanding any other provision of this section, an electric utility or municipally owned utility that is authorized to build, own, or operate a new transmission facility under Subsection (e) or (f) may designate another electric utility that is currently certificated by the commission within the same electric power region, coordinating council, independent system operator, or power pool or a municipally owned utility to build, own, or operate a portion or all of such new transmission facility, subject to any requirements adopted by the commission by rule.

(h) The division of any required certification of facilities described in this section shall apply unless each entity agrees otherwise. Nothing in this section is intended to require a certificate for facilities that the commission has determined by rule do not require certification to build, own, or operate.

(i) Notwithstanding any other provision of this section, an electric cooperative may be certificated to build, own, or operate a new facility in place of any other electric cooperative if both cooperatives agree.

Acts 1997, 75th Leg., ch. 166, Sec. 1, eff. Sept. 1, 1997. Amended by Acts 2003, 78th Leg., ch. 295, Sec. 2, eff. June 18, 2003.
Amended by:

Acts 2011, 82nd Leg., R.S., Ch. 949 (H.B. 971), Sec. 2(a), eff. June 17, 2011.

Acts 2019, 86th Leg., R.S., Ch. 44 (S.B. 1938), Sec. 4, eff. May 16, 2019.

Acts 2021, 87th Leg., R.S., Ch. 198 (H.B. 1510), Sec. 3, eff. June 1, 2021.

Acts 2021, 87th Leg., R.S., Ch. 876 (S.B. 1281), Sec. 2, eff. September 1, 2021.

Acts 2023, 88th Leg., R.S., Ch. 410 (H.B. 1500), Sec. 12, eff. September 1, 2023.

Acts 2023, 88th Leg., R.S., Ch. 892 (H.B. 5066), Sec. 1, eff. June 13, 2023.

Subchapter D. NOTICE.

§22.52. Notice in Licensing Proceedings.

(a) **Notice in electric licensing proceedings.** In all electric licensing proceedings except minor boundary changes, the applicant must give notice in the following ways:

(1) Applicant must publish notice once of the applicant's intent to secure a certificate of convenience and necessity in a newspaper having general circulation in the county or counties where a certificate of convenience and necessity is being requested, no later than the week after the application is filed with the commission. This notice must identify the commission's docket number and the style assigned to the case by Central Records. In electric transmission line cases, the applicant must obtain the docket number and style no earlier than 25 days prior to making the application by filing a preliminary pleading requesting a docket assignment. The notice must identify in general terms the type of facility if applicable, and the estimated expense associated with the project. The notice must describe all routes without designating a preferred route or otherwise suggesting that a particular route is more or less likely to be selected than one of the other routes.

(A) The notice must include all the information required by the standard format established by the commission for published notice in electric licensing proceedings. The notice must state the date established for the deadline for intervention in the proceeding (date 45 days after the date the formal application was filed with the commission; or date 30 days after the date the formal application was filed with the commission for an application for certificate of convenience and necessity filed under PURA §39.203(e) or an application for a certificate of convenience and necessity for a new transmission facility subject to PURA §37.057) and that a letter requesting intervention should be received by the commission by that date.

(B) The notice must describe in clear, precise language the geographic area for which the certificate is being requested and the location of all alternative routes of the proposed facility. This description must refer to area landmarks, including but not limited to geographic landmarks, municipal and county boundary lines, streets, roads, highways, railroad tracks, and any other readily identifiable points of reference, unless no such references exist for the geographic area. In addition, the notice must include a map that identifies all of the alternative locations of the proposed routes and all major roads, transmission lines, and other features of significance to the areas that are used in the utility's written notice description.

(C) The notice must state a location where a detailed routing map may be reviewed. The map must clearly and conspicuously illustrate the location of the area for which the certificate is being requested including all the alternative locations of the proposed routes, and must reflect area landmarks, including but not limited to geographic landmarks, municipal and county boundary lines, streets, roads, highways, railroad tracks, and any other readily identifiable points of reference, unless no such references exist for the geographic area.

(D) Proof of publication of notice must be in the form of a publisher's affidavit which must specify each newspaper in which the notice was published, the county or counties in which each newspaper is of general circulation, the dates upon which the notice was published, and a copy of the notice as published. Proof of publication must be submitted to the commission as soon as available.

(E) The applicant must provide a copy of each environmental impact study or assessment for the project to the Texas Parks and Wildlife Department (TPWD) for its review within seven days of filing the application. Proof of submission of the information to TPWD must be provided in the form of an affidavit to the commission, which must specify the date the information was mailed or otherwise provided to TPWD, and must provide a copy of the cover letter or other documentation that confirms that the information was provided to TPWD.

(2) Applicant must, upon filing an application, also mail notice of its application to municipalities within five miles of the requested territory or facility, neighboring utilities providing the same utility service within five miles of the requested territory or facility, each county government

for all counties in which any portion of the proposed facility or requested territory is located, and the Department of Defense Siting Clearinghouse. In addition, the applicant must, upon filing the application, serve the notice on the Office of Public Utility Counsel using a method specified in §22.74(b) of this title (relating to Service of Pleadings and Documents). The notice must contain the information as set out in paragraph (1) of this subsection and a map as described in paragraph (1)(C) of this subsection. An affidavit attesting to the provision of notice to municipalities, utilities, counties, the Department of Defense Siting Clearinghouse, and the Office of Public Utility Counsel must specify the dates of the provision of notice and the identity of the individual municipalities, utilities, and counties to which such notice was provided. Before final approval of any modification to the applicant's proposed route, applicant must provide notice as required under this paragraph to municipalities, utilities, and counties affected by the modification which have not previously received notice. The notice of modification must state such entities will have 20 days to intervene.

(3) Applicant must, on the date it files an application, mail notice of its application to the owners of land, as stated on the current county tax rolls, who would be directly affected by the requested certificate. For purposes of this paragraph, land is directly affected if an easement or other property interest would be obtained over all or any portion of it, or if it contains a habitable structure that would be within 300 feet of the centerline of a transmission project of 230kV or less, or within 500 feet of the centerline of a transmission project greater than 230kV. For purposes of this paragraph, land is also directly affected if it is adjacent to a property on which a substation proposed to be authorized by the certificate of convenience and necessity will be located or is directly across a highway, road, or street that is adjacent to a property on which such a substation will be located.

(A) **Required contents of notice.** The notice must contain all information required in paragraph (1) of this subsection and must include all the information required by the standard notice letter to landowners prescribed by the commission. The commission's docket number pertaining to the application must be stated in all notices. The notice must also include a copy of the "Landowners and Transmission Line Cases at the PUC" brochure prescribed by the commission.

(B) **Map of route.** The notice must include a map as described in paragraph (1)(C) of this subsection.

(C) **Notice of proposed substations.** Notice of each substation proposed to be authorized by a certificate of convenience and necessity to each owner of:

(i) property adjacent to the property on which the proposed substation will be located; and

(ii) property located directly across a highway, road, or street that is adjacent to the property on which the proposed substation will be located.

(D) **Issuance of notice prior to final approval.** Before final approval of any modification in the applicant's proposed route, applicant must provide notice as required under subparagraphs (A) through (C) of this paragraph to all directly affected landowners who have not already received such notice.

(E) **Proof of notice.** Proof of notice may be established by an affidavit affirming that the applicant sent notice by first-class mail to each of the persons listed as an owner of directly affected land on the current county tax rolls. The proof of notice must include a list of all landowners to whom notice was sent and a statement of whether any formal contact related to the proceeding between the utility and the landowner other than the notice has occurred. This proof of notice must be filed with the commission no later than 20 days after the filing of the application.

(F) **Cure of insufficient notice.** Upon the filing of proof of notice as described in subparagraph (E) of this paragraph, the lack of actual notice to any individual landowner will not in and of itself support a finding that the requirements of this paragraph have not been satisfied. If, however, the utility finds that an owner of directly affected land has not received notice, it must immediately advise the commission by written pleading and must provide notice to such landowners by priority mail, with delivery confirmation, in the same form described in

subparagraphs (A) through (C) of this paragraph, except that the notice must state that the person has fifteen days from the date of delivery to intervene. The utility must immediately file a supplemental affidavit of notice with the commission.

(4) The utility must hold at least one public meeting prior to the filing of its licensing application if 25 or more persons would be entitled to receive direct mail notice of the application. Direct mail notice of the public meeting must be sent by first-class mail to each of the persons listed on the current county tax rolls as an owner of land within 300 feet of the centerline of a transmission project of 230kV or less, an owner of land within 500 feet of the centerline of a transmission project greater than 230kV, an owner of land adjacent to a property on which a substation proposed to be authorized by the certificate of convenience and necessity will be located, or an owner of land directly across a highway, road, or street that is adjacent to such a substation. The utility must also provide written notice to the Department of Defense Siting Clearinghouse of the public meeting. In the notice for the public meeting, at the public meeting, and in other communications with a potentially affected person, the utility must not describe routes as preferred routes or otherwise suggest that a particular route is more or less likely to be selected than one of the other routes. In the event that no public meeting is held, the utility must provide written notice to the Department of Defense Siting Clearinghouse of the planned filing of an application prior to completion of the routing study.

(5) Failure to provide notice in accordance with this section will be cause for day-for-day extension of deadlines for intervention and for commission action on the application.

(6) Upon entry of a final, appealable order by the commission approving an application, the utility must provide notice to all owners of land who previously received direct notice. Proof of notice under this subsection must be provided to the commission's staff.

(A) If the owner's land is directly affected by the approved route, the notice must consist of a copy of the final order.

(B) If the owner's land is not directly affected by the approved route, the notice must consist of a brief statement that the land is no longer the subject of a pending proceeding and will not be directly affected by the facility.

(7) All notices of an applicant's intent to secure a certificate of convenience and necessity whether provided by publication or direct mail must include the following language: "All routes and route segments included in this notice are available for selection and approval by the Public Utility Commission of Texas."

(b) **Notice in telephone licensing proceedings.** In all telephone licensing proceedings, except minor boundary changes, applications for a certificate of operating authority, or applications for a service provider certificate of operating authority, the applicant must give notice in the following ways:

(1) Applicants must publish in a newspaper having general circulation in the county or counties where a certificate of convenience and necessity is being requested, once each week for two consecutive weeks, beginning the week after the application is filed, notice of the applicant's intent to secure a certificate of convenience and necessity. This notice must identify in general terms the types of facilities, if applicable, the area for which the certificate is being requested, and the estimated expense associated with the project. Whenever possible, the notice should state the established intervention deadline. The notice must also include the following statement: "Persons with questions about this project should contact (name of utility contact) at (utility contact telephone number). Persons who wish to intervene in the proceeding or comment upon action sought, should contact the Public Utility Commission, P.O. Box 13326, Austin, Texas 78711-3326, or call the Public Utility Commission at (512) 936-7120 or (888) 782-8477. Hearing- and speech-impaired individuals may contact the commission through Relay Texas at 1-800-735-2989. The deadline for intervention in the proceeding is (date 70 days after the date the application was filed with the commission) and you must send a letter requesting intervention to the commission which is received by that date." Proof of publication of notice must be in the form of a publisher's affidavit, which must specify the newspaper or newspapers in which the notice was published; the county or counties in which the newspaper or newspapers is or are of general circulation; the dates upon which the notice was published

and a copy of the notice as published. Proof of publication must be submitted to the commission as soon as available.

(2) Applicant must also mail notice of its application, which must contain the information as set out in paragraph (1) of this subsection, to cities and to neighboring utilities providing the same service within five miles of the requested territory or facility. Applicant must also provide notice to the county government of all counties in which any portion of the proposed facility or territory is located. The notice provided to county governments must be identical to that provided to cities and to neighboring utilities. An affidavit attesting to the provision of notice to counties must specify the dates of the provision of notice and the identity of the individual counties to which such notice was provided.

(3) Failure to provide notice in accordance with this section will be cause for day-for-day extension of deadlines for intervention.

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§25.101. Certification Criteria.

(a) **Definitions.** The following words and terms, when used in this section, have the following meanings unless the context indicates otherwise:

(1) **Construction or extension** -- Does not include the purchase or condemnation of real property for use as facility sites or right-of-way. Acquisition of right-of-way must not be deemed to entitle an electric utility to the grant of a certificate of convenience and necessity without showing that the construction or extension is necessary for the service, accommodation, convenience, or safety of the public.

(2) **Generating unit** -- Any electric generating facility. This section does not apply to any generating unit that is ten megawatts or less and is built for experimental purposes only.

(3) Habitable structures -- Structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis. Habitable structures include, but are not limited to: single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, and schools.

(4) Municipal Power Agency (MPA) -- Agency or group created under Texas Utilities Code, Chapter 163 – Joint Powers Agencies.

(5) Municipal Public Entity (MPE) -- A municipally owned utility (MOU) or a municipal power agency.

(6) Prudent avoidance -- The limiting of exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort.

(7) Tie line -- A facility to be interconnected to the Electric Reliability Council of Texas (ERCOT) transmission grid by a person, including an electric utility or MPE, that would enable additional power to be imported into or exported out of the ERCOT power grid.

(b) **Certificates of convenience and necessity for new service areas and facilities.** Except for certificates granted under subsection (e) of this section, the commission will grant an application and issue a certificate only if it finds that the certificate is necessary for the service, accommodation, convenience, or safety of the public, and complies with the statutory requirements in the Public Utility Regulatory Act (PURA) §37.056. The commission may issue a certificate as applied for, or refuse to issue it, or issue it for the construction of a portion of the contemplated system or facility or extension thereof, or for the partial exercise only of the right or privilege. The commission will render a decision approving or denying an application for a certificate within one year of the date of filing of a complete application for such a certificate, unless good cause is shown for exceeding that period. A certificate, or certificate amendment, is required for the following:

(1) **Change in service area**. Any certificate granted under this section must not be construed to vest exclusive service or property rights in and to the area certificated.

(A) Uncontested applications: An application for a certificate under this paragraph must be approved administratively within 80 days from the date of filing a complete application if:

(i) no motion to intervene has been filed or the application is uncontested;

(ii) all owners of land that is affected by the change in service area and all customers in the service area being changed have been given direct mail notice of the application; and

(iii) commission staff has determined that the application is complete and meets all applicable statutory criteria and filing requirements, including, but not limited to, the provision of proper notice of the application.

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(B) Minor boundary changes or service area exceptions: Applications for minor boundary changes or service area exceptions must be approved administratively within 45 days of the filing of the application provided that:

(i) every utility whose certificated service area is affected agrees to the change;

(ii) all customers within the affected area have given prior consent; and

(iii) commission staff has determined that the application is complete and meets all applicable statutory criteria and filing requirements, including, but not limited to, the provision of proper notice of the application.

(2) **Generation facility.**

(A) In a proceeding involving the purchase of an existing electric generating facility by an electric utility that operates solely outside of ERCOT, the commission will issue a final order on a certificate for the facility not later than the 181st day after the date a request for the certificate is filed with the commission under PURA §37.058(b).

(B) In a proceeding involving a newly constructed generating facility by an electric utility that operates solely outside of ERCOT, the commission will issue a final order on a certificate for the facility not later than the 366th day after the date a request for the certificate is filed with the commission under PURA §37.058(b).

(C) An electric utility operating solely outside of the ERCOT region may, but is not required to, obtain a certificate to install, own, or operate a generation facility with a capacity of 10 megawatts or less.

(3) **Electric transmission line.** All new electric transmission lines must be reported to the commission in accordance with §25.83 of this title (relating to Transmission Construction Reports). This reporting requirement is also applicable to new electric transmission lines to be constructed by an MPE seeking to directly or indirectly construct, install, or extend a transmission facility outside of its applicable boundaries. For an MOU, the applicable boundaries are the municipal boundaries of the municipality that owns the MOU. For an MPA, the applicable boundaries are the municipal boundaries of the public entities participating in the MPA.

(A) **Determination of need**:

(i) **Economic projects.** Except as otherwise stated in this subparagraph, the following must be met for a transmission line in the ERCOT region. The applicant must present an economic cost-benefit study that analyzes the transmission project under a congestion cost savings test and a production cost savings test. The commission will give great weight to such a study if it is conducted by the ERCOT independent system operator. Adequately quantifiable and ongoing direct and indirect costs and benefits to the transmission system attributable to the project may be included in the cost-benefit study.

(I) **Congestion cost savings test.** ERCOT, in consultation with commission staff, must develop a congestion cost savings test.

(-a-) The congestion cost savings test must include an analysis of whether the levelized ERCOT-wide annual congestion cost savings attributable to the proposed project are equal to or greater than the average of the first three years annual revenue requirement of the proposed project of which the transmission line is a part.

(-b-) Prior to the effective date of the test developed by ERCOT under this subclause ERCOT may immediately, without updating its current protocols, utilize the generator revenue reduction test, effective Dec. 1, 2011 under

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ERCOT Nodal Protocols §3.11.2(6), as the congestion cost benefit test required under this clause. ERCOT may continue to rely upon completed calculations using the generator revenue reduction test to evaluate ongoing applications after the effective date of the test developed under this subclause.

(II) **Production cost savings test.** The production cost savings test must include an analysis of whether the levelized ERCOT-wide annual production cost savings attributable to the proposed project are equal to or greater than the first-year annual revenue requirement of the proposed project of which the transmission line is a part.

(III) Economic cost-benefit analysis must be studied for the projected in-service date of the project using the study case identified in the ERCOT planning guide.

(IV) ERCOT may recommend, and the commission may approve, a transmission line in the ERCOT region that demonstrates a savings under either a congestion cost savings test or a production cost savings test.

(ii) **Reliability projects.**

(I) The requirements of clause (i) of this subparagraph do not apply to an application for a transmission line that is necessary to meet state or federal reliability standards, including: a transmission line needed to interconnect a transmission service customer or end-use customer; or needed due to the requirements of any federal, state, county, or municipal government body or agency for purposes including, but not limited to, highway transportation, airport construction, public safety, or air or water quality.

(II) For a transmission line not addressed by clause (i) of this subparagraph, the commission will consider, among other factors, the needs of the interconnected transmission systems to support a reliable and adequate network and to facilitate robust wholesale competition. When evaluating reliability for a proposed project in the ERCOT region, the commission will consider and any review conducted by ERCOT must incorporate the historical load, forecasted load growth, and additional load currently seeking interconnection. The forecasted load growth and additional load currently seeking interconnection must be substantiated by quantifiable evidence of projected load growth. The commission will give great weight to:

(-a-) the recommendation of an organization that meets the requirement of PURA §39.151; and/or

(-b-) written documentation provided by a transmission service provider to ERCOT that the transmission line is needed to interconnect transmission service or retail customers.

(iii) **Resiliency.** ERCOT may recommend, and the commission may approve, a transmission project that is submitted as an economic or reliability project and does not demonstrate sufficient economic savings or reliability benefits to merit approval on those grounds if ERCOT determines the line would

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address a resiliency issue identified in the grid reliability and resiliency assessment required by subparagraph (E) of this paragraph. In determining whether to approve such a project the commission will consider:

(I) the margin by which the transmission project was unable to demonstrate sufficient economic savings or reliability benefits to merit approval on those grounds;

(II) whether the resiliency benefits the transmission project would provide by reducing the impacts to customers of potential outages caused by regional extreme weather scenarios are sufficient to compensate for the project's inability to demonstrate sufficient economic savings or reliability benefits to merit approval on those grounds.

(III) the cost effectiveness of the transmission project's ability to address the resiliency issue identified by ERCOT compared to other possible solutions,

(IV) other factors listed in PURA §37.056(c), as appropriate.

(B) **Routing**: An application for a new transmission line must address the criteria in PURA §37.056(c) and considering those criteria, engineering constraints, and costs, the line must 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 must be considered in the selection of the utility's alternative routes unless a route is agreed to by the utility, the landowners whose property is crossed by the proposed line, and owners of land that contains a habitable structure within 300 feet of the centerline of a transmission project of 230 kV or less, or within 500 feet of the centerline of a transmission project greater than 230 kV, and otherwise conforms to the criteria in PURA §37.056(c):

(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.

(C) **Uncontested transmission lines**: An application for a certificate for a transmission line will be approved administratively within 80 days from the date of filing a complete application if:

(i) no motion to intervene has been filed or the application is uncontested; and

(ii) commission staff has determined that the application is complete and meets all applicable statutory criteria and filing requirements, including, but not limited to, the provision of proper notice of the application.

(D) **Projects deemed critical to reliability**. Applications for transmission lines which have been formally designated by a PURA §39.151 organization as critical to the reliability of the system will be considered by the commission on an expedited basis. The commission will render a decision approving or denying an application for a certificate under this subparagraph within 180 days of the date of filing a complete application for such a certificate unless good cause is shown for extending that period.

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(E) **Grid reliability and resiliency assessment.** ERCOT must conduct a biennial assessment of the ERCOT power grid's reliability and resiliency in extreme weather scenarios. Each assessment must:

(i) consider the impact of different levels of thermal and renewable generation availability;

(ii) identify areas of the state that face significant grid reliability and resiliency issues, taking into account the impact of potential outages caused by regional extreme weather scenarios on customers, including multiple element outage analysis when appropriate, and

(iii) recommend transmission projects that may increase the grid's reliability or resiliency in extreme weather scenarios.

(4) **Tie line.** An application for a tie line must include a study of the tie line by ERCOT. The study must include, at a minimum, an ERCOT-approved reliability assessment of the proposed tie line. If an independent system operator intends to conduct a study to evaluate a proposed tie line or intends to provide confidential information to another entity to permit the study of a proposed tie line, the independent system operator must file notice with the commission at least 45 days prior to the commencement of such a study or the provision of such information.

(c) **Projects or activities not requiring a certificate**. A certificate, or certificate amendment, is not required for the following:

(1) An extension of facilities as described in PURA §37.052(a) and (b);

(2) A new electric high voltage switching station, or substation;

(3) The repair or reconstruction of a transmission facility due to emergencies. The repair or reconstruction of a transmission facility due to emergencies should proceed without delay or prior approval of the commission and must be reported to the commission in accordance with §25.83 of this title;

(4) The construction or upgrading of distribution facilities within the electric utility's service area;

(5) Routine activities associated with transmission facilities that are conducted by transmission service providers. Nothing contained in the following subparagraphs should be construed as a limitation of the commission's authority as set forth in PURA. Any activity described in the following subparagraphs must be reported to the commission in accordance with §25.83 of this title. The commission may require additional facts or call a public hearing thereon to determine whether a certificate of convenience and necessity is required. Routine activities are defined as follows:

(A) The modification, construction, or extension of a transmission line that connects existing transmission facilities to a substation or metering point provided that:

(i) the transmission line modification, construction, or extension does not exceed:

(I) three miles if the line connects to a load-serving substation or metering point; or

(II) two miles if the line connects to a generation substation or metering point; and

(ii) all rights-of-way necessary for the modification, construction, or extension have been acquired, and

(iii) all landowners whose property is directly affected by the transmission line, as defined in §22.52(a)(3) of this title, have given written consent for the modification, construction, or extension. If the transmission line

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modification, construction, or extension does not exceed one mile to provide service to a substation or metering point, written consent is only required by landowners whose property is crossed by the transmission line.

(B) The rebuilding, replacement, or respacing of structures along an existing route of the transmission line; upgrading to a higher voltage not greater than 230 kV; bundling of conductors or reconductoring of an existing transmission facility, provided that:

(i) no additional right-of-way is required; or

(ii) if additional right-of-way is required, all landowners of property crossed by the electric facilities have given prior written consent.

(C) The installation, on an existing transmission line, of an additional circuit not previously certificated, provided that:

(i) the additional circuit is not greater than 230 kV; and

(ii) all landowners whose property is crossed by the transmission facilities have given prior written consent.

(D) The relocation of all or part of an existing transmission facility due to a request for relocation, provided that:

(i) the relocation is to be done at the expense of the requesting party; and

(ii) the relocation is solely on a right-of-way provided by the requesting party.

(E) The relocation or alteration of all or part of an existing transmission facility to avoid or eliminate existing or impending encroachments, provided that all landowners of property crossed by the electric facilities have given prior written consent.

(F) The relocation, alteration, or reconstruction of a transmission facility due to the requirements of any federal, state, county, or municipal governmental body or agency for purposes including, but not limited to, highway transportation, airport construction, public safety, or air and water quality, provided that:

(i) all landowners of property crossed by the electric facilities have given prior written consent; and

(ii) the relocation, alteration, or reconstruction is responsive to the governmental request.

(6) Upgrades to an existing transmission line by an MPE that do not require any additional land, right-of-way, easement, or other property not owned by the MOU;

(7) The construction, installation, or extension of a transmission facility by an MPE that is entirely located not more than 10 miles outside of an MOU's certificated service area that occurs before September 1, 2021; or

(8) A transmission facility by an MOU placed in service after September 1, 2015, that is developed to interconnect a new natural gas generation facility to the ERCOT transmission grid and for which, on or before January 1, 2015, an MOU was contractually obligated to purchase at least 190 megawatts of capacity.

(d) **Standards of construction and operation.** In determining standard practice, the commission will be guided by the provisions of the American National Standards Institute, Incorporated, the National Electrical Safety Code, and such other codes and standards that are generally accepted by the industry, except as modified by this commission or by municipal regulations within their jurisdiction. Each electric utility must construct, install, operate, and maintain its plant, structures, equipment, and lines in accordance with these standards, and in such manner to best accommodate the public, and to prevent interference with service furnished by other public utilities insofar as practical.

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(1) The standards of construction apply to, but are not limited to, the construction of any new electric transmission facilities, rebuilding, upgrading, or relocation of existing electric transmission facilities.

(2) For electric transmission line construction requiring the acquisition of new rights-of-way, an electric utility must include in the easement agreement, at a minimum, a provision prohibiting the new construction of any above-ground structures within the right-of-way. For this purpose, new construction of above-ground structures does not include necessary repairs to existing structures, farm or livestock facilities, storage barns, hunting structures, small personal storage sheds, or similar structures. A utility may negotiate appropriate exceptions in instances where the electric utility is subject to a restrictive agreement being granted by a governmental agency or within the constraints of an industrial site. Any exception to this paragraph must meet all applicable requirements of the National Electrical Safety Code.

(3) Measures must be applied when appropriate to mitigate the adverse impacts of the construction of any new electric transmission facilities, and the rebuilding, upgrading, or relocation of existing electric transmission facilities. Mitigation measures must be adapted to the specifics of each project and may include such requirements as:

(A) selective clearing of the right-of-way to minimize the amount of flora and fauna disturbed;

(B) implementation of erosion control measures;

(C) reclamation of construction sites with native species of grasses, forbs, and shrubs; and

(D) returning site to its original contours and grades.

(e) **Certificates of convenience and necessity for existing service areas and facilities.** For purposes of granting these certificates for those facilities and areas in which an electric utility was providing service on September 1, 1975, or was actively engaged in the construction, installation, extension, improvement of, or addition to any facility actually used or to be used in providing electric utility service on September 1, 1975, unless found by the commission to be otherwise, the following provisions prevail for certification purposes:

(1) The electrical generation facilities and service area boundary of an electric utility having such facilities in place or being actively engaged in the construction, installation, extension, improvement of, or addition to such facilities or the electric utility's system as of September 1, 1975, must be limited, unless otherwise provided, to the facilities and real property on which the facilities were actually located, used, or dedicated as of September 1, 1975.

(2) The transmission facilities and service area boundary of an electric utility having such facilities in place or being actively engaged in the construction, installation, extension, improvement of, or addition to such facilities or the electric utility's system as of September 1, 1975, must be, unless otherwise provided, the facilities and a corridor extending 100 feet on either side of said transmission facilities in place, used or dedicated as of September 1, 1975.

(3) The facilities and service area boundary for the following types of electric utilities providing distribution or collection service to any area, or actively engaged in the construction, installation, extension, improvement of, or addition to such facilities or the electric utility's system as of September 1, 1975, must be limited, unless otherwise found by the commission, to the facilities and the area which lie within 200 feet of any point along a distribution line, which is specifically deemed to include service drop lines, for electrical utilities.

(f) **Transferability of certificates.** Any certificate granted under this section is not transferable without approval of the commission and remains in force until further order of the commission.

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(g) **Certification forms.** All applications for certificates of convenience and necessity must be filed on commission-prescribed forms so that the granting of certificates, both contested and uncontested, may be expedited. Forms may be obtained from Central Records.

(h) **Commission authority**. Nothing in this section is intended to limit the commission's authority to recommend or direct the construction of transmission under PURA §§35.005, 36.008, or 39.203(e).

Amy L. Zapletal, P.E.
Project Manager Senior
Transmission Engineering Right-of-Way

Memorandum

Date: March 13, 2025

To: File

From: Amy L. Zapletal. P.E.

Subject: Alternative Routes Evaluation: Drill Hole Switch—El Capitan Switch 345 kV Transmission Line Project

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This memorandum discusses my evaluation of routing alternatives for Oncor Electric Delivery Company LLC's ("Oncor's") proposed Drill Hole Switch—El Capitan Switch 345 kV Transmission Line Project ("Proposed Transmission Line Project"). In addition to the recommendation for a route that best meets the requirements of the Texas Utilities Code and the Substantive Rules of the Public Utility Commission of Texas ("Commission"), I also selected alternative routes to be filed with the CCN Application.

Background

The goal of this route evaluation process is to provide the Commission with an adequate number of alternative routes to conduct a proper evaluation. These alternative routes provide good geographic diversity while complying with Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code, Commission Procedural Rule 22.52(a)(4), and Commission Substantive Rule 25.101(b)(3)(B), including the Commission's policy of prudent avoidance.

The alternative route selections are based on my: (1) reconnaissance and observations of the project area; (2) independent review of the data included in the *Environmental Assessment and Alternative Route Analysis for Oncor Electric Delivery Company LLC's Proposed Drill Hole Switch—El Capitan Switch 345 kV Transmission Line Project in Culberson County, Texas* ("Environmental Assessment and Routing Study"), prepared by Halff Associates, Inc. ("Halff") and included as Attachment No. 1 to the CCN Application; (3) discussions with Halff personnel; (4) discussions with Oncor personnel; (5) participation in the public participation meeting process; (6) review of landowner feedback regarding their protection and preservation efforts within the Delaware River basin; (7) review of correspondence related to the Proposed Transmission Line Project; (8) input that Oncor received from interested parties; and other information. My recommendation incorporates consideration of information in the Environmental Assessment and Routing Study, engineering feasibility, the estimated cost of alternative routes, and construction limitations.

Development of Alternative Route Links

Halff documented its efforts to identify potential preliminary alternative routes for the Proposed Transmission Line Project in Section 4.0 of the Environmental Assessment and Routing Study. After completing the initial data gathering and constraints mapping process, Halff identified preliminary alternative route links using USGS topographic maps and recent aerial photography (Maxar, 2023-2024).

These preliminary alternative route links were selected considering the location of existing corridors, apparent property boundaries and routing constraints. Some of the routing constraints within the study area include: (1) oil and gas facilities; (2) the Delaware River and numerous draw and drainages; and (3) state-maintained roadways where 90-degree roadway crossings by transmission lines are typically required by the Texas Department of Transportation. Prior to the public participation meeting, numerous preliminary alternative route links were identified by Halff that, when combined, formed numerous preliminary alternative routes to connect Oncor's existing Drill Hole Switch, expanded to include the new 345 kV switchyard, to Oncor's planned El Capitan Switch. The preliminary alternative route links evaluated by Halff, presented at the public participation meeting, and modified based on input received are depicted in Figure 3-1 in Appendix E of the Environmental Assessment and Routing Study. The alternative route link deletions, additions and modifications that were made following the public participation meeting are described and depicted in Figures 6-1 through 6-3 in Section 6.0 of the Environmental Assessment and Routing Study.

In general, links were modified and added where possible to address public comments and Oncor requests. Following the preliminary alternative route link modifications, a total of 38 alternative route links were adopted.

Development of Alternative Routes

Combinations of these 38 alternative route links by Halff generated 37 alternative routes for further evaluation by Oncor, as discussed in Section 7.0 of the Environmental Assessment and Routing Study. I initially identified five alternative route links that created corridors in which to group potential alternative routes. The alternative route combinations within each of the five routing corridors were identified. Each of the alternative route link corridors were then analyzed to identify a select number of geographically diverse and forward-progressing route alternatives from which the Commission could compare the routing possibilities for the Proposed Transmission Line Project. Below, I discuss the 12 alternative routes that I selected to be filed with the CCN Application, as shown in Tables 1 and 2 attached to this Memorandum.

Discussion of Alternative Routes Selected for Filing

Each alternative route possesses both positive and negative comparative attributes. I considered these attributes when selecting the alternative routes to be filed as a part of the CCN Application. Each alternative route complies with Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code and Commission Substantive Rule 25.101, including the Commission's policy of prudent avoidance. None of the 37 alternative routes identified for the Proposed Transmission Line Project have habitable structures within 500 feet of the route centerline. All of the 37 alternative routes incorporate the 138 kV Drill Hole Tie-Line, as shown in Table 2 attached to this Memorandum, connecting the new 345 kV switchyard to Drill Hole Switch. Because the Drill Hole Tie-Line will be a station asset and its alignment will not vary depending on the route approved by the Commission, it was not included in the route analysis performed and described herein.

The alternative routes can be grouped in many different ways; one approach is to group them into geographic corridors. I grouped the alternative routes into five different geographic corridors following the north-south orientation of the alternative route links. These five corridors are identified as: (1) the west corridor using Link F2; (2) the west-central corridor using Link H42; (3) the central corridor using Link H3;

(4) the east-central corridor using Link H2; and (5) the east corridor using Link H1. The map attached to this Memorandum shows these alternative route link locations. All alternative routes cross Ranch-to-Market Road ("RM") 652.

I presented the 38 alternative route links and all 37 alternative routes to Oncor's engineering witness for this project, Mr. Shiloh Fraijo, for consideration of engineering feasibility, construction limitations, and alternative route cost estimates. Mr. Fraijo confirmed the engineering feasibility based on known constraints for each of the alternative routes, and he also provided cost estimates for each alternative route.

Based on my analysis, I selected 12 alternative routes to be filed with the CCN Application to allow for an adequate number of alternative routes to conduct a proper evaluation. Table 1, attached to this Memorandum, presents the sequences of route links that comprise these alternative routes. Table 2, attached to this Memorandum, presents quantifiable environmental data on the 12 alternative routes and the Drill Hole Tie-Line filed as a part of the CCN Application. The filed alternative routes use each of the 38 alternative route links in at least one route. Below is a discussion of each of the geographic corridors and the alternative routes selected for filing within each corridor.

The west corridor routes containing Link F2 ("Link F2 Corridor Routes") include the longest filed route (Route 13) and vary in length from approximately 26.0 to 28.2 miles. Transmission line costs for Link F2 Corridor Routes range from an estimated $121,714,000 to $134,595,000. Link F2 Corridor Routes have a range of 23.7% to 42.7% of their total route length parallel to existing compatible corridors. Link F2 Corridor Routes have nearly similar numbers of stream crossings by the routes: 16 and 17. Link F2 Corridor Routes both have one location of known rare/unique plants within proposed ROW. This known location is the Delaware River, and all preliminary alternative routes containing Link F2 cross the Delaware River. The number of recorded cultural resources within 1,000 feet of the Link F2 Corridor Routes centerlines ranges from 2 to 9 (Route 13), and one recorded cultural resource site is crossed by the centerline of a Link F2 Corridor Route (Route 13). The two alternatives filed in the CCN Application from the Link F2 Corridor Routes include Alternative Routes 13 and 34.

The west-central corridor routes containing Link H42 ("Link H42 Corridor Routes") vary in length from approximately 21.7 to 25.4 miles. Transmission line costs for Link H42 Corridor Routes range from an estimated $103,299,000 to $114,275,000. Link H42 Corridor Routes have a range of 23.7% to 30.7% of their total route length parallel to existing compatible corridors. Link H42 Corridor Routes vary in the number of stream crossings by the routes from 11 to 13, but no known locations of rare/unique plants within proposed rights-of-way ("ROW") exist. The number of recorded cultural resources within 1,000 feet of the centerlines of Link H42 Corridor Routes ranges from 3 to 4, but no recorded cultural resource sites are crossed by the centerlines of Link H42 Corridor Routes. The two alternatives filed in the CCN Application from the Link H42 Corridor Routes include Alternative Routes 7 and 15.

The central corridor routes containing Link H3 ("Link H3 Corridor Routes") vary in length from approximately 21.2 to 22.6 miles. Transmission line costs for Link H3 Corridor Routes range from an estimated $97,468,000 to $102,142,000. Link H3 Corridor Routes have a range of 23.9% to 35.1% of their total route length parallel to existing compatible corridors. Link H3 Corridor Routes vary in the number of stream crossings by the routes from 18 to 20, but no known locations of rare/unique plants within proposed ROW exist. The number of recorded cultural resources within 1,000 feet of the centerlines of Link H3 Corridor

Routes ranges from 3 to 9 (Route 5). The number of recorded cultural resource sites crossed by the centerlines of Link H3 Corridor Routes ranges from 0 to 2 (Route 5), the greatest number of sites crossed by any of the alternative filed routes. The three alternatives filed in the CCN Application from the Link H3 Corridor Routes include Alternative Routes 5, 35, and 36.

The east-central corridor routes containing Link H2 ("Link H2 Corridor Routes") vary in length from approximately 21.0 to 24.0 miles. Transmission line costs for Link H2 Corridor Routes range from an estimated $98,490,000 to $114,088,000. Link H2 Corridor Routes have a range of 14.3% to 46.2% of their total route length parallel to existing compatible corridors. Link H2 Corridor Routes vary in the number of stream crossings by the routes from 19 to 22 (Routes 28 and 31), and one known location of rare/unique plants within proposed ROW exists for two of the Link H2 Corridor Routes (Routes 30 and 31). The number of recorded cultural resources within 1,000 feet of the centerlines of Link H2 Corridor Routes ranges from 3 to 4. The number of recorded cultural resource sites crossed by the centerlines of Link H2 Corridor Routes ranges from 0 to 1 (Route 31). The three alternatives filed in the CCN Application from the Link H2 Corridor Routes include Alternative Routes 28, 30, and 31.

The east corridor routes containing Link H1 ("Link H1 Corridor Routes") vary in length from approximately 22.5 to 23.4 miles. Transmission line costs for Link H1 Corridor Routes range from an estimated $106,564,000 to $107,001,000. Link H1 Corridor Routes have a range of 44.1% to 63.2% (Route 26) of their total route length parallel to existing compatible corridors, the highest range of any corridor routes. Link H1 Corridor Routes vary in the number of stream crossings by the routes from 17 to 19, and one known location of rare/unique plants within proposed ROW exists for one Link H1 Corridor Route (Route 23). The number of recorded cultural resources within 1,000 feet of the centerlines of Link H1 Corridor Routes ranges from 2 to 3, but no recorded cultural resource sites are crossed by the centerlines of Link H1 Corridor Routes. The two alternatives filed in the CCN Application from the Link H1 Corridor Routes include Alternative Routes 23 and 26.

Selection of Route 36 as the Route Best Addressing the Applicable Routing Factors

After holistically analyzing each of the 12 routes within the five geographic corridors, I selected Route 36 of the Link H3 Corridor Routes as the route that best meets the requirements of Texas Utilities Code Section 37.056 (c)(4)(A)-(D) and Commission Substantive Rule 25.101(b)(3)(B). Route 36 is comprised of Links E11-E12-G1-G2-H3-K2-N1-Z.

Some of the significant factors which led to the selection of Route 36 include the following:

- The length of Route 36 is approximately 21.23 miles, which is only 0.20 miles longer than the shortest among all the filed routes (Route 30) and approximately 7 miles shorter than the longest alternative route included in the Application (Route 13 is the longest at approximately 28.23 miles);
- The estimated transmission line cost for Route 36 is $97,468,000, which is the least expensive transmission line cost, and is approximately 38.1% less than the most expensive (Route 13 estimated at $134,595,000);
- There are no habitable structures within 500 feet of the centerline of Route 36, and there are no habitable structures within 500 feet of the centerline of any alternative route filed in the CCN Application;

- Route 36 parallels existing compatible corridors (including apparent property boundaries) for approximately 23.9% of its length. Route 26 possesses the highest percentage parallel to existing compatible corridors (63.2%) but is longer in route length (23.35 miles). Route 30 has the lowest percentage parallel to existing compatible corridors (14.3%);
- Route 36 crosses no parks/recreational areas, does not have any parks/recreational areas within 1,000 feet of its centerline, and does not have any length of ROW within a foreground visual zone (0.5 mile of unobstructed view) of any parks/recreational areas. Because there are no parks/recreational areas within the study area, all alternative filed routes share these characteristics;
- Route 36 has 2,710 feet of its route through commercial/industrial areas. Route lengths through commercial/industrial areas vary from 1,750 feet (Route 26) to 4,015 feet (Route 13);
- Route 36 crosses 94,374 feet of areas classified as rangeland pasture, which consists of a mixture of upland grasses and shrub growth but insufficient woody structure to provide a canopy generally associated with forested type of vegetation. Route lengths crossing areas classified as rangeland pasture vary from 92,166 feet (Route 30) to 119,792 feet (Route 13);
- Route 36 has no length of its route across potential wetlands. No filed route crosses potential wetlands;
- Route 36 has 19 streams crossed by its centerline. The number of stream crossings by route varies from 11 (Route 7) to 22 (Routes 28 and 31). Route 36 does not cross the Delaware River;
- Route 36 has 5,625 feet of its route parallel to streams (within 100 feet). Route lengths parallel to streams (within 100 feet) vary from 0 feet (Routes 7 and 15) to 8,448 feet (Route 30);
- Route 36 has no length of its route across lakes or ponds (open waters). Of the four filed routes that cross lakes or ponds (open waters), the length varies from 22 feet (Routes 5 and 13) and 52 feet (Route 15);
- Route 36 has no known rare/unique plant locations within the ROW. Each of five filed routes have one known rare/unique plant locations within the ROW (Routes 13, 23, 30, 31 and 34);
- Route 36 has no recorded cultural resource site crossed by its centerline. Three filed routes have a recorded cultural resource site crossed by their centerlines. Routes 13 and 31 cross one recorded cultural resource site each, and Route 5 crosses two recorded cultural resource sites;
- Route 36 has: (i) no private airstrip or FAA-registered airport with all runways 3,200 feet or less within 10,000 feet of the centerline along its entire length; (ii) no FAA-registered airport with a runway greater than 3,200 feet within 20,000 feet of the centerline along its entire length; and (iii) no heliport within 5,000 feet of its centerline. All alternative filed routes share these characteristics;
- Route 36 has one electronic installation within 2,000 feet of its centerline. The range in number of electronic installations within 2,000 feet of the alternative filed route centerlines varies from 0 to 5 (Route 13);
- Route 36 crosses no US or state highway. No filed route crosses a US or state highway;
- Route 36 crosses two Farm-to-Market Road ("FM"), RM, county road or other streets along its entire length. Due to the locations of the Drill Hole Switch and El Capitan Switch, all routes cross RM 652 and, therefore, have at least one and at most two, FM, RM, county road or other street crossings;
- Route 36 has 11,307 feet of estimated ROW length within the foreground visual zone (0.5 mile of unobstructed view) of US or state-maintained roadways. The filed routes range in estimated ROW

length within the foreground visual zone of US or state-maintained roadways from 5,358 feet (Routes 7 and 15) to 33,539 feet (Route 23); and

- Route 36 has been judged to be feasible from an engineering perspective based on currently known conditions, without the benefit of on-the-ground and subsurface surveys. There are no currently-identifiable engineering constraints that impact this alternative route that cannot be addressed with additional consideration by Oncor during the engineering and construction processes.

Additional information concerning the issues addressed in this Memorandum can be found in the Environmental Assessment and Routing Study, included as Attachment No. 1 to the CCN Application, as well as my direct testimony filed concurrently with the CCN Application.

TABLE 1 - LINK COMPOSITION OF ALTERNATIVE FILED ROUTES IN THE CCN APPLICATION DRILL HOLE SWITCH—EL CAPITAN SWITCH 345 KV TRANSMISSION LINE PROJECT

Route	Link Sequence	Total Length (feet)	Total Length (miles)
5	E11-C31-C32-D1-E2-H3-K2-N1-Z-	116,370	22.04
7	E11-C31-C32-D1-D21-D22-E3-H41-H42-L1-N21-N22-Z-	114,417	21.67
13	E11-C31-C32-D1-D21-D3-F1-F2-I4-L1-N21-N22-Z-	149,060	28.23
15	E11-C31-B21-B22-E3-H41-H42-L1-N21-N22-Z-	134,042	25.39
23	E11-E12-H1-I1-I2-K2-N1-Z-	119,006	22.54
26	E11-E12-H1-J1-K1-N1-Z-	123,301	23.35
28	E11-E12-G1-H2-J2-K1-N1-Z-	118,969	22.53
30	E11-E12-G1-H2-I2-K2-N1-Z-	111,022	21.03
31	E11-E12-G1-H2-I2-I3-L1-N21-N22-Z-	126,583	23.97
34	E11-E12-G1-G2-G3-H41-H5-F2-L2-N22-Z-	137,374	26.02
35	E11-E12-G1-G2-H3-K2-M-N21-N22-Z-	119,279	22.59
36	E11-E12-G1-G2-H3-K2-N1-Z-	112,104	21.23

TABLE 2 - ENVIRONMENTAL DATA FOR ALTERNATIVE FILED ROUTES IN THE CCN APPLICATION DRILL HOLE SWITCH—EL CAPITAN SWITCH 345 KV TRANSMISSION LINE PROJECT

Alternative Route Number	5	7	13	15	23	26
Length of alternative route (feet)	116,370	114,417	149,060	134,042	119,006	123,301
Length of alternative route (miles)	22.04	21.67	28.23	25.39	22.54	23.35
Length of route parallel to existing electric transmission lines	8,503	35,073	51,440	19,147	0	0
Length of route parallel to railroads	0	0	0	0	0	0
Length of route parallel to existing public roads/highways	0	0	0	0	21,461	0
Length of route parallel to pipelines[1]	16,313	9,765	1,574	9,765	1,983	0
Length of route parallel to apparent property boundaries	26,814	0	12,222	12,568	51,958	77,934
Total length of route parallel to existing compatible rights-of-way	35,317	35,073	63,662	31,715	52,508	77,934
Number of habitable structures within 500 feet of the route centerline[2]	0	0	0	0	0	0
Number of parks or recreational areas within 1,000 feet of the route centerline[3]	0	0	0	0	0	0
Length of the route across parks/recreational areas	0	0	0	0	0	0
Length of route through commercial/industrial areas	3,002	2,778	4,015	2,961	1,890	1,750
Length of the route across cropland/hay meadow	0	0	0	0	0	0
Length across rangeland pasture	101,664	94,917	119,792	113,610	99,497	101,763
Length of route across agricultural cropland with mobile irrigation systems	0	0	0	0	0	0
Length of route across upland woodlands	329	194	354	790	381	328
Length of route across riparian areas	11,353	16,493	24,876	16,629	17,237	19,460
Length of route across potential wetlands	0	0	0	0	0	0
Number of stream crossings by the route	18	11	17	13	17	19
Length of route parallel to streams (within 100 feet)	5,625	0	2,978	0	5,625	4,129
Length across lakes or ponds (open waters)	22	35	22	52	0	0
Number of known rare/unique plant locations within the right-of-way	0	0	1	0	1	0
Length of route through known habitat of endangered or threatened species	0	0	0	0	0	0
Number of recorded cultural resource sites crossed by the route	2	0	1	0	0	0
Number of recorded cultural resources within 1,000 feet of the route centerline	9	4	9	3	3	2
Length of route across areas of high archeological/historical site potential	32,056	21,629	38,170	21,512	22,092	18,725
Number of private airstrips within 10,000 feet of the route centerline	0	0	0	0	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	0	0	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	0	0	0	0
Number of heliports located within 5,000 feet of the route centerline	0	0	0	0	0	0
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0	0	0	0	0	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	4	4	5	4	1	0
Number of U.S. or State Highway crossings by the route	0	0	0	0	0	0
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	2	1	1	1	2	2
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways	11,307	5,358	6,771	5,358	33,539	17,272
Estimated length of right-of-way within foreground visual zone of park/recreational areas	0	0	0	0	0	0
Estimated Transmission Line Cost	$ 102,142,000	$ 103,299,000	$ 134,595,000	$ 114,275,000	$ 106,564,000	$ 107,001,000

NOTES: All length measurements are in feet. All linear measurements were obtained from the National Agricultural Imagery Program digital ortho imagery flown from 2023-2024 (Maxar) except for areas of high archeological/historical site potential, which were measured in combination with USGS Topographic Quadrangles. The aerial photography has a provided accuracy of +/- 30 feet.

[1] Not included in length of route parallel to existing compatible rights-of-way.

[2] Structures normally inhabited by humans on a daily or regular basis. Habitable structures include but are not limited to single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, churches, hospitals, nursing homes, and schools.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

[4] The Drill Hole Tie-Lines will be 138 kV station assets, and the alignment will not vary depending on the route approved by the Commission.

TABLE 2 - ENVIRONMENTAL DATA FOR ALTERNATIVE FILED ROUTES IN THE CCN APPLICATION DRILL HOLE SWITCH—EL CAPITAN SWITCH 345 KV TRANSMISSION LINE PROJECT

Alternative Route Number	28	30	31	34	35	36	Drill Hole Tie-Lines[4]
Length of alternative route (feet)	118,969	111,022	126,583	137,374	119,279	112,104	5,853
Length of alternative route (miles)	22.53	21.03	23.97	26.02	22.59	21.23	0
Length of route parallel to existing electric transmission lines	0	0	19,147	0	6,125	0	0
Length of route parallel to railroads	0	0	0	0	0	0	0
Length of route parallel to existing public roads/highways	0	10,933	18,017	0	0	0	0
Length of route parallel to pipelines[1]	0	1,983	0	24,788	1,983	1,983	0
Length of route parallel to apparent property boundaries	54,937	15,890	18,017	32,548	35,720	26,814	0
Total length of route parallel to existing compatible rights-of-way	54,937	15,890	37,164	32,548	41,844	26,814	0
Number of habitable structures within 500 feet of the route centerline[2]	0	0	0	0	0	0	0
Number of parks or recreational areas within 1,000 feet of the route centerline[3]	0	0	0	0	0	0	
Length of the route across parks/recreational areas	0	0	0	0	0	0	0
Length of route through commercial/industrial areas	2,079	2,236	2,205	2,095	2,647	2,710	600
Length of the route across cropland/hay meadow	0	0	0	0	0	0	0
Length across rangeland pasture	97,524	92,166	100,404	118,223	101,922	94,374	5,253
Length of route across agricultural cropland with mobile irrigation systems	0	0	0	0	0	0	0
Length of route across upland woodlands	95	148	53	55	197	292	0
Length of route across riparian areas	19,271	16,471	23,921	17,000	14,512	14,728	0
Length of route across potential wetlands	0	0	0	0	0	0	0
Number of stream crossings by the route	22	19	22	16	20	19	0
Length of route parallel to streams (within 100 feet)	6,952	8,448	7,302	570	3,329	5,625	0
Length across lakes or ponds (open waters)	0	0	0	0	0	0	0
Number of known rare/unique plant locations within the right-of-way	0	1	1	1	0	0	0
Length of route through known habitat of endangered or threatened species	0	0	0	0	0	0	0
Number of recorded cultural resource sites crossed by the route	0	0	1	0	0	0	0
Number of recorded cultural resources within 1,000 feet of the route centerline	3	4	4	2	3	3	0
Length of route across areas of high archeological/historical site potential	26,038	29,405	34,544	48,604	23,703	24,064	0
Number of private airstrips within 10,000 feet of the route centerline	0	0	0	0	0	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	0	0	0	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	0	0	0	0	0
Number of heliports located within 5,000 feet of the route centerline	0	0	0	0	0	0	0
Number of commercial AM radio transmitters located within 10,000 feet of the route centerline	0	0	0	0	0	0	0
Number of FM, microwave and other electronic installations within 2,000 feet of the route centerline	0	1	4	2	2	1	0
Number of U.S. or State Highway crossings by the route	0	0	0	0	0	0	0
Number of Farm to Market (F.M.), county roads, or other street crossings by the route	2	2	2	1	2	2	0
Estimated length of right-of-way within foreground visual zone of U.S. and State Highways	10,699	22,262	29,823	9,251	11,307	11,307	0
Estimated length of right-of-way within foreground visual zone of park/recreational areas	0	0	0	0	0	0	0
Estimated Transmission Line Cost	$ 101,442,000	$ 98,490,000	$ 114,088,000	$ 121,714,000	$ 105,569,000	$ 97,468,000	

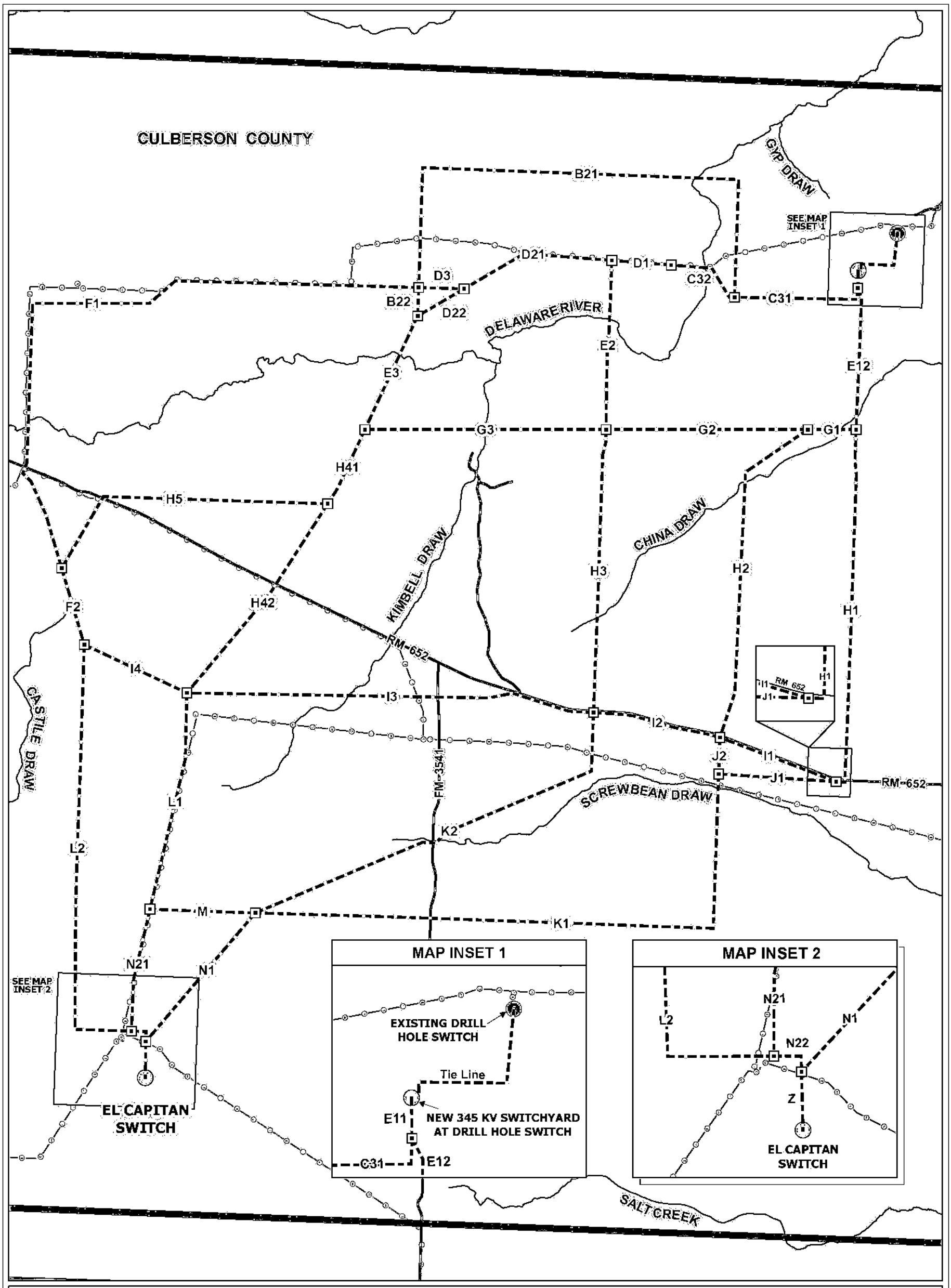
NOTES: All length measurements are in feet. All linear measurements were obtained from the National Agricultural Imagery Program digital ortho imagery flown from 2023-2024 (Maxar) except for areas of high archeological/historical site potential, which were measured in combination with USGS Topographic Quadrangles. The aerial photography has a provided accuracy of +/- 30 feet.

[1] Not included in length of route parallel to existing compatible rights-of-way.

[2] Structures normally inhabited by humans on a daily or regular basis. Habitable structures include but are not limited to single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, churches, hospitals, nursing homes, and schools.

[3] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

[4] The Drill Hole Tie-Lines will be 138 kV station assets, and the alignment will not vary depending on the route approved by the Commission.



DRILL HOLE SWITCH — EL CAPITAN SWITCH
345 KV TRANSMISSION LINE PROJECT

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MAP FEATURES

- STUDY AREA
- NODE BETWEEN ADJACENT ROUTE LINKS
- PRELIMINARY ALTERNATIVE ROUTE LINK
- DRILL HOLE SWITCH — EL CAPITAN ENDPOINTS
- PUBLIC ROAD
- EXISTING TRANSMISSION LINE
- RIVER / STREAM

0 8,000 16,000
SCALE IN FEET

Date: 2/27/2025