STANDARD APPLICATION FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED TRANSMISSION LINE

AND

APPLICATION FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED TRANSMISSION LINE PURSUANT TO 16 TEX. ADMIN. CODE § 25.174

DOCKET NO. 55365

Submit seven (7) copies of the application and all attachments supporting the application. If the application is being filed pursuant to 16 Tex. Admin. Code § 25.101(b)(3)(D) (TAC) or 16 TAC § 25.174, include in the application all direct testimony. The application and other necessary documents shall be submitted to:

Public Utility Commission of Texas
Attn.: Filing Clerk
1701 North Congress Avenue
Austin, Texas 78711-3326

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DOCKET NO. 55365
APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR A CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A PROPOSED 138 kV TRANSMISSION LINE WITHIN CHAMBERS COUNTY

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Attachments:

1. Environmental Assessment and Alternative Route Analysis for the 138 kV Kilgore Substation Project in Chambers County, Texas
2. Franchise Agreement Between CenterPoint Energy Houston Electric, LLC and the City of Mont Belvieu, Franchise Agreement Between CenterPoint Energy Houston Electric, LLC and the City of Baytown
3. Cost Estimates for Proposed Alternative Routes
4. "New 138 kV Kilgore Substation" Study
5. Schematic of CenterPoint Energy's Existing Transmission System
6. Directly Affected Landowner List Including Habitable Structures and Landowner Map
7. Written Direct Notice to Landowners
8. Written Direct Notice to Electric Utilities Located Within Five Miles
9. Written Direct Notice to Pipeline Owners Paralleled or Crossed
10. Written Direct Notice to County and Municipal Authorities and List of Officials Notified
11. Written Direct Notice to the Office of Public Utility Counsel
12. Written Direct Notice to the Department of Defense Military Aviation and Installation Assurance siting Clearinghouse
13. Newspaper Notices
14. Transmittal Letter to Texas Parks and Wildlife Department
15. Affidavit of Bradley J. Diehl

Note: As used herein, the term "joint application" refers to an application for proposed transmission facilities for which ownership will be divided. All applications for such facilities should be filed jointly by the proposed owners of the facilities.

1. Applicant (Utility) Name: For joint applications, provide all information for each applicant.

Name: CenterPoint Energy Houston Electric, LLC ("CenterPoint Energy")
Certificate Number: 30086
Street Address: 1111 Louisiana Street, Houston, Texas 77002
Mailing Address: P.O. Box 1700, Houston, Texas 77251-1700

2. Please identify all entities that will hold an ownership interest or an investment interest in the proposed project but which are not subject to the Commission's jurisdiction.

Response: CenterPoint Energy will hold sole ownership interest in the proposed project. No entities that are not subject to the Public Utility Commission's ("Commission's") jurisdiction will hold an ownership or investment interest in the proposed project.

3. Person to Contact: For joint applications, provide all information for each applicant.

Name: Robert W. Jackson
Title/Position: Manager, Regulatory & Rates
Phone Number: 713-207-5584
Mailing Address: P.O. Box 1700, Houston, Texas 77251-1700
Email Address: robert.jackson@centerpointenergy.com

Alternate Contact:
Name: Peggy Sorum
Title/Position: Director, Regulatory and Rates
Phone Number: 713-207-3583
Mailing Address: P.O. Box 1700, Houston, Texas 77251-1700
Email Address: peggy.sorum@centerpointenergy.com

Legal Counsel:
Name: Mickey Moon
Phone Number: 713-207-7231
Mailing Address: P.O. Box 1700, Houston, Texas 77251-1700
Email Address: mickey.moon@centerpointenergy.com

4. Project Description:

Name or Designation of Project: 138 kV Kilgore Substation Project

Provide a general description of the project, including the design voltage rating (kV), the operating voltage (kV), the CREZ Zone(s) (if any) where the project is located (all or in part), any substations and/or substation reactive compensation constructed as part of the project, and any series elements such as sectionalizing switching devices, series line compensation, etc. For HVDC transmission lines, the converter stations should be considered to be project components and should be addressed in the project description.

Response: The 138 kV Kilgore Substation Project is a proposal to construct a new 138 kV double circuit line that will loop the existing 138 kV CHEV to LNGSTN ckt 86 in the CenterPoint Energy transmission network and connect it to the new CenterPoint Energy Kilgore substation. There are 20 alternative routes proposed and two alternate substation sites. The 138 kV Kilgore project transmission line design voltage rating and operating voltage rating are both 138 kV and the line is not located in a CREZ zone.

The Kilgore substation proposed to be constructed as part of this project is not expected to require any type of reactive compensation. The only series elements associated with the project are sectionalizing switching devices and other typical in-series substation elements at the new Kilgore substation.

If the project will be owned by more than one party, briefly explain the ownership arrangements between the parties and provide a description of the portion(s) that will be owned by each party. Provide a description of the responsibilities of each party for implementing the project (design, Right-of-Way acquisition, material procurement, construction, etc.).

Response: CenterPoint Energy will own, operate, and maintain all transmission line facilities, including conductors, wires, structures, hardware, and rights-of-way. CenterPoint Energy will own, operate, and maintain the substation facilities. CenterPoint Energy will implement all aspects of the project including design, right-of-way acquisition, material procurement, and construction.

If applicable, identify and explain any deviation in transmission project components from the original transmission specifications as previously approved by the Commission or recommended by a PURA §39.151 organization.

Response: This provision is not applicable to the proposed project because it was not previously approved by the Commission, and it was not required to be submitted to a PURA §39.151 organization pursuant to the Electric Reliability Council of Texas ("ERCOT") Nodal Protocols.

5. Conductor and Structures:

Conductor Size and Type: 959 kcmil ACSS/TW Suwannee (Aluminum Conductor, Steel Supported Trapezoid Wire

Number of conductors per phase: Two

Continuous Summer Static Current Rating (A): 3512

Continuous Summer Static Line Capacity at Operating Voltage (MVA): 838

Continuous Summer Static Line Capacity at Design Voltage (MVA): 838

Type and composition of Structures:

Response: The typical structures for all route segments will predominately be double-circuit steel lattice towers with a vertical phase configuration in an 80-foot-wide ROW for the proposed alternative route segments. Depending on the terrain and other considerations, such as existing CNP structure designs and the length of span between structures and clearance requirements needed to cross waterways, wetlands areas, FAA determinations or utility and roadway crossings, CenterPoint

Energy may require wider ROW and alternative structure types, such as tubular steel poles or concrete poles with a vertical configuration in a 80-foot wide ROW and flat-tap steel structures with a horizontal configuration in a 180-foot wide ROW to approach and dip under existing transmission lines. In the event where a structure is needed to terminate a fiber cable inside the substation, a concrete pole would be considered. The exact location or extent of the different ROW widths or the use of different structure types cannot be determined until a route is approved, surveys are conducted, and more detailed engineering designs are completed.

Height of Typical Structures:

Response: The typical height of a lattice steel tower with a vertical phase configuration can range from approximately 90 to 140 feet tall depending on the terrain and required National Electrical Safety Code ("NESC") clearances.

The typical height of a tubular steel pole with vertical phase configuration can range from approximately 60 to 190 feet tall depending on the terrain and required NESC clearances.

The typical height of a flat-tap steel structure with a horizontal phase configuration to dip under existing transmission lines can range from approximately 35 to 55 feet tall depending on the terrain and required NESC clearances.

The typical height of a concrete fiber only stub pole will be approximately 45 to 70 feet tall depending on the terrain and required NESC clearances.
The exact range of different structure heights cannot be determined until a route is approved, surveys are conducted, and more detailed engineering designs are completed.

Estimated Maximum Height of Structures:

Response: The maximum structure height cannot be determined until a route is approved, surveys are conducted, and more detailed designs are completed.

Explain why these structures were selected; include such factors as landowner preference, engineering considerations, and costs comparisons to alternate

structures that were considered. Provide dimensional drawings of the typical structures to be used in the project.

Response: The structures originally considered include double-circuit vertical lattice and single circuit horizontal lattice steel towers, double-circuit vertical concrete poles, and double-circuit vertical and single circuit horizontal steel poles.

Landowner Preference

When asked on the questionnaire if respondents had a preference for the type of transmission line structure that is being proposed for the Project, of the five respondents, only one stated that they preferred steel poles.

Engineering Considerations

For each alternative structure, the factors considered included the following:

- soil conditions throughout the study area;
- nominal distance between structures (i.e., span length);
- conductor size and tension;
- nominal ROW width;
- construction and maintenance issues;
- live-line maintenance issues;
- existing CenterPoint Energy structure designs;
- potential land-use impacts; and
- costs.

Why typical structures were selected

The alternative structures were evaluated and compared by how each alternative addressed the engineering factors considered.

While the ROW requirements for the lattice steel towers, concrete poles, and tubular steel poles are comparable, there are differences in other respects. Tubular steel poles may require significantly deeper drilled shaft foundations in comparison to lattice steel towers due to the foundation requirements of tubular steel poles. Concrete poles have conductor capacity, manufacturing, and transportation limitations requiring significantly shorter span lengths in comparison to steel lattice towers and tubular steel poles.

Construction of steel poles and concrete poles require less assembly than steel lattice towers, yet as previously mentioned, tubular steel poles may require deeper foundation construction and concrete poles may require larger construction equipment. Live-line maintenance of steel lattice towers, concrete poles, and tubular steel poles is comparable. Potential land-use issues such as collision risks from farm equipment, livestock, and automotive traffic can favor the use of steel poles and concrete poles with smaller footprints. However, a steel pole needs more steel and additional concrete poles would be required, than a comparable steel tower, to achieve the same load carrying capacity in a smaller footprint.

The flat-tap steel structures with a 180-foot wide ROW were selected to dip under the existing transmission lines.

Cost Comparisons

Cost estimates were developed for the proposed project using the three different structure types. A comparison of the costs show that the lowest cost solution utilized predominately double-circuit vertical steel lattice towers. This was the structure type used for the base line of the screening estimates for the review of the primary transmission lines routes. CenterPoint Energy also took a sampling of the primary transmission line routes and developed estimated costs using tubular steel poles and concrete poles with lattice steel tower angle structures. The screening estimates validated that routes using double circuit vertical lattice steel towers were the least cost option. Regardless of structure type, all cost estimates that included a transmission line crossing included the flat-tap steel structures in a 180-foot wide ROW to approach and dip under the existing transmission lines. The primary transmission line routes estimated with tubular steel poles for the entirety were the most expensive at approximately 20% higher cost. The primary transmission line routes estimated with tangent concrete poles and lattice steel tower angle structures were approximately 3.5% higher cost. This cost differential changed depending on the number of angles in the route, but the trend was the same.

Dimensional Drawings

The dimensional drawing for the typical structures to be used are shown in Figures 1-2, 1-3, and 1-4 of the Study, **Attachment 1**, for the proposed project prepared by HALFF.

For joint applications, provide and separately identify the above-required information regarding structures for the portion(s) of the project owned by each applicant.

Response: Not applicable. This is not a joint application.

6. Right-of-way:

Miles of Right-of-Way: 2.27 miles to 5.66 miles
Miles of Circuit: 4.54 miles to 11.32 miles
Width of Right-of-Way: 80 feet to 180 feet
Percent of Right-of-Way Acquired: 0%-56%

The following table (Table 1) contains the miles of ROW required, miles of circuit required, width of ROW required, and percent of ROW acquired for the twenty alternative routes.

ROW		Alternative Route 1	Alternative Route 2	Alternative Route 3	Alternative Route 4	Alternative Route 5	Alternative Route 6	Alternative Route 7	Alternative Route 8	Alternative Route 9	Alternative Route 10
		B1-C1-D2-E3-F2-G2-H1-K1-L2-M12-M13	B1-D3-E1-E2-F3-G3-H2-K2-K3-M2-M11-M13	B1-D3-E3-F1-F3-G3-H2-K2-K3-M2-N21-N23	B1-D3-E3-F2-G1-G3-H2-I1-K4-N31-N33	A1-B2-C2-C1-D1-E2-F3-G4-K1-L2-M12-M13	A1-B2-C3-C4-E4-K5-M5-M41-M42-M3-M2-M11-M13	A1-B2-C3-C4-E4-K5-M5-M41-M42-N31-N33	A2-B3-B5-C4-E4-K5-N5-O31-O33	A2-B3-C5-D5-D4-E4-K5-M5-M41-M42-N31-N33	A2-B3-C5-D5-E5-I3-I2-K4-N31-N33
Required (miles)		3.27	2.93	2.75	3.19	3.08	2.69	2.27	2.55	2.44	2.49
Circuit (miles)		6.54	5.86	5.50	6.38	6.16	5.38	4.54	5.1	4.88	4.98
Width (feet)	New	80	80	80	80	80	80	80	80	80	80
	Existing	0	0	0	0	0	0	0	0	0	0
Acquired (%)		0	0	0	0	0	0	0	0	0	0

ROW		Alternative Route 11	Alternative Route 12	Alternative Route 13	Alternative Route 14	Alternative Route 15	Alternative Route 16	Alternative Route 17	Alternative Route 18	Alternative Route 19	Alternative Route 20
		A2-B3-C5-D5-E5-I3-K5-N5-O31-O33	A2-B3-C5-D5-E5-K6-N5-O31-O33	A2-B4-C6-D6-D5-D4-E4-K5-M5-M41-M42-M3-M2-N21-N23	A2-B4-C7-E6-I4-I3-I2-I1-K2-K3-M2-N21-N23	A3-A4-S3-Q1-P1-P4-N42-N41-M41-M42-M3-M2-N21-N23	A3-A4-S3-Q1-P1-P4-O31-O33	A3-A4-S3-Q1-P1-P4-O31-O33	A3-A4-S3-R2-Q2-P2-P1-P4-O31-O32-N32-N31-M3-M2-N21-N23	A3-A4-S3-R2-Q2-P3-P4-O31-O33	A3-I5-I4-I3-I2-I1-K2-K3-M2-N21-N23
Required (miles)		2.50	2.52	2.99	2.97	5.42	4.43	4.55	5.66	4.63	3.89
Circuit (miles)		5.00	5.04	5.98	5.94	10.84	8.86	9.10	11.32	9.26	7.78
Width (feet)	New	80	80	80	80	80	80	80	80	80	80
	Existing	0	0	0	0	80	80	80	80	80	80
Acquired (%)		0	0	0	0	46%	56%	54%	44%	53%	23%

For joint applications, provide and separately identify the above-required information for each route for the portion(s) of the project owned by each applicant.

Response: Not Applicable. This is not a joint project.

Provide a brief description of the area traversed by the transmission line. Include a description of the general land uses in the area and the type of terrain crossed by the line.

Response: The proposed project will traverse Chambers County. The land uses in this area are diverse, ranging from agricultural and suburban residential to large-scale commercial and industrial. The project is located in the Coastal Prairies, a sub-region of the Gulf Coastal Plains physiographic region. Elevations within the project area range from 40 feet above mean sea level ("amsl") in areas associated with Cedar Point Lateral to 25 feet amsl near surface waters; however, the majority of the project area ranges between 25 feet amsl to 30 feet amsl. **Section 2** and **Section 4** of the Study (**Attachment 1**) describe the potential areas to be traversed by the transmission line in greater detail.

7. Substations or Switching Stations:

List the name of all existing HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the existing HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

Response: There are no existing HVDC converter stations, substations, or switching stations that will be associated with the new transmission line.

List the name of all new HVDC converter stations, substations or switching stations that will be associated with the new transmission line. Provide documentation showing that the owner(s) of the new HVDC converter stations, substations and/or switching stations have agreed to the installation of the required project facilities.

Response: The new Kilgore substation will be constructed in association with the construction of the new 138 kV transmission line. There are no existing HVDC

converter stations or switching stations that will be associated with the new transmission line. Both the Kilgore substation and the new 138 kV transmission line will be owned solely by CenterPoint Energy.

8. Estimated Schedule:

Estimated Dates of:	Start	Completion
Right-of-way and Land Acquisition	March 2024	February 2025
Engineering and Design	March 2024	October 2024
Material and Equipment Procurement	October 2024	October 2025
Construction of Facilities	November 2025	May 2026
Energize Facilities	June 2026	June 2026

9. Counties:

For each route, list all counties in which the route is to be constructed.

Response: The twenty alternative routes are all located within Chambers County.

10. Municipalities:

For each route, list all municipalities in which the route is to be constructed.

Response: All the Alternative Routes originate in the city of Mont Belvieu and terminate in the City of Baytown.

For each applicant, attach a copy of the franchise, permit or other evidence of the city's consent held by the utility, if necessary or applicable. If franchise, permit, or other evidence of the city's consent has been previously filed, provide only the docket number of the application in which the consent was filed. Each applicant should provide this information only for the portion(s) of the project which will be owned by the applicant.

Response: See **Attachment 2**

11. Affected Utilities:

Identify any other electric utility served by or connected to facilities in this application.

Response: The facilities proposed in this Application will not serve another electric utility or connect with facilities owned by another electric utility

Describe how any other electric utility will be affected and the extent of the other utilities' involvement in the construction of this project. Include any other electric utilities whose existing facilities will be utilized for the project (vacant circuit positions, ROW, substation sites and/or equipment, etc.) and provide documentation showing that the owner(s) of the existing facilities have agreed to the installation of the required project facilities.

Response: No other electric utility will be affected by or involved in the construction of the proposed project.

12. Financing:

Describe the method of financing this project. For each applicant that is to be reimbursed for all or a portion of this project, identify the source and amount of the reimbursement (actual amount if known, estimated amount otherwise) and the portion(s) of the project for which the reimbursement will be made.

Response: CenterPoint Energy will finance this project from its general corporate funds.

13. Estimated Costs: Provide cost estimates for each route of the proposed project using the following table. Provide a breakdown of "Other" costs by major cost category and amount. Provide the information for each route in an attachment to this application.

Response: See **Attachment 3**

For joint applications, provide and separately identify the above-required information for the portion(s) of the project owned by each applicant.

Response: Not applicable. This is not a joint application.

14. Need for the Proposed Project:

For a standard application, describe the need for the construction and state how the proposed project will address the need. Describe the existing transmission system and conditions addressed by this application. For projects that are planned to accommodate load growth, provide historical load data and load projections for at least five years. For projects to accommodate load growth or to address reliability issues, provide a description of the steady state load flow analysis that justifies the project. For interconnection projects, provide any documentation from a transmission service customer, generator, transmission service provider, or other entity to establish that the proposed facilities are needed. For projects related to a Competitive Renewable Energy Zone, the foregoing requirements are not necessary; the applicant need only provide a specific reference to the pertinent portion(s) of an appropriate commission order specifying that the facilities are needed. For all projects, provide any documentation of the review and recommendation of a PURA §39.151 organization.

Response: The 138 kV Kilgore Substation Project is needed to provide 138 kV electric transmission service to the new Kilgore Substation. The new distribution substation is needed to support existing customers, area load growth, and multiple commercial and residential developments planned for the area. The substation is needed as well to support two existing 35kV substations and one existing 12kV substation, which are now serving the load in the same general area. Over the last five years (2018-2022), the three existing substations have experienced a 14.25% combined load growth. With the large industrial, commercial, and residential developments planned in the area, the distribution load in this area that is currently served from the three existing substations is forecasted to grow approximately 39 MW between 2023 and 2032, with a combined load increase of almost 20%between 2023 and 2032. With this growth, the existing area substations will not be able to adequately supply electric service to support the new load growth due to their distance from the load center. Locating a new substation closer to the load center will increase circuit capacity to better serve existing and new distribution customers and support the rapid load growth in this fast-growing area. In addition, this new substation will help to reduce distribution overhead feeder exposure, circuit customer counts, and average

feeder loading in the area, which will improve circuit reliability for the distribution customers.

Historical load data and forecast load projection for ten years are provided in **Attachment 4** of this application.

CenterPoint Energy evaluated 138 kV connection alternatives to identify reliable and cost-effective options to serve the new Kilgore substation. The manner in which the proposed project will address the need for the construction as well as a description of the steady state load flow analysis that justifies the project is contained in the CenterPoint Energy "New 138 kV Kilgore Substation" report (**Attachment 4**) of this application. In addition, the existing transmission system and condition addressed are also summarize in the same document.

The proposed transmission line has not been reviewed by ERCOT because it is a Tier 4 "Neutral Project". The ERCOT Nodal Protocols section 3.11.4.3 (f)(vi) states:

"A project shall be considered a neutral project if it consists entirely of:

A project to serve a new Load, unless such project would create a new transmission circuit connection between two stations (other than looping an existing circuit into the new Load-serving station).

The 138 kV Kilgore Substation Project loops the existing 138 kV CHEV – LNGSTN ckt 86 transmission line into a new load serving station; therefore, ERCOT review is unnecessary.

15. Alternatives to Project:

For a standard application, describe alternatives to the construction of this project (not routing options). Include an analysis of distribution alternatives, upgrading voltage or bundling of conductors of existing facilities, adding transformers, and for utilities that have not unbundled, distributed generation as alternatives to the project. Explain how the project overcomes the insufficiencies of the other options that were considered.

Response:

a) **Distribution alternative** – Due to the location of the new developments, none of the existing nearby CenterPoint Energy distribution substations (Jordan, Mont Belvieu, and Trinity Bay) have the capacity to support the expected rapid load growth. Therefore, there is not a distribution alternative available.

b) **Distributed Generation** – CenterPoint Energy is an unbundled utility; therefore, it did not consider distributed generation as an alternative to the proposed project.

c) **Upgrading Voltage/Bundling Conductors/Adding Transformer** – Upgrading voltage or bundling of conductors of existing facilities or adding transformers would not provide the additional capacity necessary to serve projected load growth.

d) **Transmission Alternative** – Four different 138 kV transmission connection options were evaluated to provide electric service to the new Kilgore Substation, and these are detailed in **Attachment 4**. The options represent a geographically diverse route interconnecting to different existing 138 kV transmission circuits. While all four connection options can be constructed while maintaining the reliability of the transmission system, Option 4 needed additional upgrades to satisfy reliability requirements. Option 2 was initially recommended due to its initial lower cost estimate, as discussed in **Attachment 4** where a cost comparison between the four alternatives is presented. However, as discussed in the addendum to Attachment 4, after detailed engineering was performed, it was determined that Option 1 was the lower cost option and is the recommended option as it has similar reliability performance to Option 2.

16. Schematic or Diagram:

For a standard application, provide a schematic or diagram of the applicant's transmission system in the proximate area of the project. Show the location and voltage of existing transmission lines and substations, and the location of the construction. Locate any taps, ties, meter points, or other facilities involving other utilities on the system schematic.

Response: A schematic of CenterPoint Energy's existing transmission system and the proposed construction in the (Jordan/Trinity Bay/Mont Belvieu) area is included as **Attachment 5**.

17. Routing Study:

Provide a brief summary of the routing study that includes a description of the process of selecting the study area, identifying routing constraints, selecting potential line segments, and the selection of the routes. Provide a copy of the complete routing study conducted by the utility or consultant. State which route the applicant believes best addresses the requirements of PURA and P.U.C. Substantive Rules.

Response: The methodologies and assumptions that were used to conduct the Environmental Assessment and Alternative Route Analysis for the 138 kV Kilgore Substation Project are consistent with Section 37.056(c)(4)(A) through (D) of the Texas Utilities Code ("PURA"), P.U.C. Proc. R. 22.52(a)(4), P.U.C. Subst. R. 25.101(b)(3)(B), and the Commission's policy of prudent avoidance. The methodology used to complete the routing study is summarized below.

HALFF developed a base map to delineate the study area boundaries and initiate data collection activities. HALFF, with input from CenterPoint Energy, identified the study area boundaries. The study area was defined based on the locations of the proposed northern tap locations into existing CenterPoint Energy transmission facilities and southern proposed alternative locations for the Kilgore Substation.

The study area was defined to provide an area large enough to develop an adequate set of geographically diverse alternative routes and to minimize potential land use conflicts within the study area. The western boundary of the study area is defined by an existing 345 kV transmission line which is paralleled for a portion of this boundary and is adjacent to the Chambers and Harris County line. The eastern boundary of the study area is defined by State Highway 99; a portion of this boundary parallels the western side of State Highway 99. The northern study boundary is located north of Interstate Highway 10 in the City of Mont Belvieu. The southern study area boundary is located south of Kilgore Parkway.

Initial reconnaissance surveys were conducted, and 52 evaluation criteria were developed. Data were collected pertaining to land use, recreational and park areas, historical and aesthetic values, and environmental integrity. Project scoping letters were sent to federal, state, and local agencies and officials to solicit additional

information. Available 2022 aerial photography and geographic information system ("GIS") coverage with associated metadata were reviewed, and relevant resource data were selected and mapped. HALFF conducted a resource analysis for development of an environmental and land use composite constraints map.

HALFF identified 76 feasible and geographically diverse initial preliminary transmission line segments. A public meeting was conducted in accordance with P.U.C. Proc. R. 22.52 (a)(4). Modifications to the preliminary transmission line segments were completed based on the results of the public meeting, additional agency input, and a reconnaissance survey. Data were then tabulated for the evaluation criteria for each resulting primary transmission line routes and compared. The 20 primary transmission line routes were divided into three geographic families and compared based on the evaluation criteria for the selection of the recommended proposed alternative routes within each primary transmission line route family. CenterPoint Energy analyzed the engineering feasibility and provided an estimated cost analysis for each of the primary transmission line routes. HALFF incorporated these factors into the analysis for the recommendation of the proposed alternative routes. CenterPoint Energy reviewed HALFF's recommendations and concurred that each proposed alternative route was feasible from an engineering, constructability, and cost perspective. An additional comparison between the selected proposed alternative routes from each primary transmission line route family was completed to select the route that best addresses the requirements of PURA and PUC Substantive Rules.

Alternative Route 10 was recommended by HALFF as the route that best addresses the requirements of PURA and PUC Substantive Rules based on the following rational:

- Third shortest in overall length of all alternative routes
- 39 habitable structures within 300 feet of which 30 are industrial / commercial buildings
- Crosses no park/recreational areas
- Shortest length across upland forests
- Does not parallel any streams and has the least amount of stream crossings
- Second least distance across a 100-year floodplain

- Second least amount of pipeline crossings and shortest length parallel to pipeline ROW
- Shorter lengths within the foreground visual zone of U.S. and state highways, FM and county roads, and park and recreational areas when compared to all alternative routes
- The alternative route does not cross an area of high archeological/historic site potential
- Crosses no recorded archeological sites
- 53% of length is parallel to apparent features including existing ROW and property lines.

CenterPoint Energy concurred with the selection of Alternative Route 10 as the route that best addresses the requirements of PURA and PUC Substantive Rules. A copy of the Study conducted by HALFF is provided in **Attachment 1**.

18. Public Meeting or Public Open House:

Provide the date and location for each public meeting or public open house that was held in accordance with 16 TAC § 22.52. Provide a summary of each public meeting or public open house including the approximate number of attendants, and a copy of any survey provided to attendants and a summary of the responses received. For each public meeting or public open house provide a description of the method of notice, a copy of any notices, and the number of notices that were mailed and/or published.

Response: A public meeting was held on October 13, 2022, from 5:00 p.m. to 8:00 p.m. at the Baytown Community Center, located at 2407 Market Street, Baytown, TX. A total of 15 people signed in and attended the public meeting. CenterPoint Energy personnel registered visitors and handed out a questionnaire and information packet. The questionnaire solicited comments on citizen concerns as well as an evaluation of the information presented in the public meeting. A copy of the questionnaire can be found in **Appendix B** of the Study, **Attachment 1**. Section 3.6.2 of the Study, **Attachment 1**, includes a detailed description of the public meeting and the responses received to the questionnaire.

CenterPoint Energy also provided two manned GIS computer stations at the meeting. Landowners were provided the opportunity to view their properties or

areas of interest in more detail at the GIS stations. Halff Associates recorded their comments in a digital format and provided an annotated 8.5" X 11" color snapshot of the area of interest for the attendee to take home.

Copies of the direct notice letter and the published newspaper notice can be found in Appendix B of the Study (**Attachment 1**). Individual notification letters announcing the public meeting were directly mailed by CenterPoint Energy to 324 landowners whose property is located within 300 feet of each of the preliminary transmission line segments. An additional 44 notice letters were sent to local officials and government agencies. 320 feet was used to account for any horizontal variation between the aerial photography and the county's parcel shapefile. In addition, CenterPoint Energy publicized the public meeting through a public notice published in a local newspaper, the *Houston Chronical* and *The Baytown Sun* on October 4, 2022.

19. Routing Maps:

Base maps should be a full scale (one inch = not more than one mile) highway map of the county or counties involved, or other maps of comparable scale denoting sufficient cultural and natural features to permit location of all routes in the field. Provide a map (or maps) showing the study area, routing constraints, and all routes or line segments that were considered prior to the selection of the routes. Identify the routes and any existing facilities to be interconnected or coordinated with the project. Identify any taps, ties, meter points, or other facilities involving other utilities on the routing map. Show all existing transmission facilities located in the study area. Include the locations of radio transmitters and other electronic installations, airstrips, irrigated pasture or cropland, parks and recreational areas, historical and archeological sites (subject to the instructions in Question 27), and any environmentally sensitive areas (subject to the instructions in Question 29).

Response: The following maps showing the study area, routing constraints, and alternative routing segments are provided in the Study, included in **Attachment 1** of this application:

- Figure 2-1. Project Area Map
- Figure 3-1. Preliminary Transmission Line Segments
- Figure 3-2. Proposed Alternative Route Line Segments

- Figure 4-1. Habitable Structures and Other Land Use Features in the Vicinity of the Proposed Alternative Routes (Map Pocket).

Provide aerial photographs of the study area displaying the date that the photographs were taken or maps that show (1) the location of each route with each route segment identified, (2) the locations of all major public roads including, as a minimum, all federal and state roadways, (3) the locations of all known habitable structures or groups of habitable structures (see Question 19 below) on properties directly affected by any route, and (4) the boundaries (approximate or estimated according to best available information if required) of all properties directly affected by any route.

Response: Aerial photographs of the study area that show the requested route information, major roadways, habitable structures, and property boundaries are included as Figure 4-1 (Map Pocket) of the Study, **Attachment 1**.

For each route, cross-reference each habitable structure (or group of habitable structures) and directly affected property identified on the maps or photographs with a list of corresponding landowner names and addresses and indicate which route segment affects each structure/group or property.

Response: A cross-reference of each habitable structure and directly affected property identified on the maps or photographs with a list of corresponding landowner names and addresses is included in **Attachment 6**.

20. Permits:

List any and all permits and/or approvals required by other governmental agencies for the construction of the proposed project. Indicate whether each permit has been obtained.

Response: CenterPoint Energy will coordinate with all of the appropriate local, state, and federal agencies with jurisdiction regarding the construction of the transmission facilities associated with this Project. CenterPoint Energy and/or HALFF have initiated contact with and provided information about the Project to various agencies. Some input from these agencies has been incorporated in this application; however, requests for permits and/or approvals will not be submitted

to the appropriate agencies until the final alignment of the approved route is determined. None of the following potential permits, approvals, requirements, easements, or clearances has been obtained.

- Floodplain development permits and road crossing permits might be required by Chambers County, depending on the location of the transmission line structures. Coordination with the local floodplain administrator will be completed as necessary.
- Permits for crossing roads, highways, and/or other properties owned or maintained by the Texas Department of Transportation will be obtained as necessary.
- Cultural resource clearance will be obtained from the Texas Historical Commission for the approved Project right-of-way as necessary.
- A Storm Water Pollution Prevention Plan ("SWPPP") might be required by the Texas Commission on Environmental Quality ("TCEQ"). CenterPoint Energy or its contractor will submit a Notice of Intent to the TCEQ at least 48 hours prior to the beginning of construction and will have the SWPPP on site at the initiation of clearing and construction activities.
- A Miscellaneous Easement from the Texas General Land Office ("GLO") will be obtained as necessary for any right-of-way that crosses a state-owned riverbed or navigable stream.
- After alignments and structure locations/heights are adjusted and set, CenterPoint Energy will make a final determination of the need for Federal Aviation Administration ("FAA") notification, based on structure locations and structure designs. In some areas, if necessary, CenterPoint Energy could use lower-than-typical structure heights or add marking and/or lighting to certain structures.
- Permits or other requirements associated with possible impacts to waters of the United States under the jurisdiction of the U.S. Army Corps of Engineers ("USACE") will be coordinated with the USACE as necessary.
- Permits or other requirements associated with possible impacts to endangered/threatened species will be coordinated with the U.S. Fish and Wildlife Service ("USFWS") as necessary.
- Coordination with Texas Parks & Wildlife Department ("TPWD") might be necessary to determine the need for any surveys, and to avoid or minimize any

potential adverse impacts to sensitive habitats, threatened or endangered species, and other fish and wildlife resources along the approved route.

21. Habitable structures:

For each route list all single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis within 300 feet of the centerline if the proposed project will be constructed for operation at 230kV or less, or within 500 feet of the centerline if the proposed project will be constructed for operation at greater than 230kV. Provide a general description of each habitable structure and its distance from the centerline of the route. In cities, towns or rural subdivisions, houses can be identified in groups. Provide the number of habitable structures in each group and list the distance from the centerline of the route to the closest and the farthest habitable structure in the group. Locate all listed habitable structures or groups of structures on the routing map.

Response: The number of habitable structures within 300 feet of the alternative route centerlines range from one on Alternative Route 1 to 189 on Alternative Route 20. Table 4-2 in Appendix C of the EA (**Attachment 1**) lists the assigned habitable structure identification number, general description, and approximate distance from the centerline of all habitable located within 300 feet of the alternative routes. The locations of these structures are shown on Figure 4-1 (Map Pocket) in the EA.

The horizontal accuracy of the aerial photograph used to identify habitable structures was calculated at ± 20 feet. To account for this margin of error and to ensure that all habitable structures were properly identified, HALFF included habitable structures within 320 feet of the centerline of each alternative route.

22. Electronic Installations:

For each route, list all commercial AM radio transmitters located within 10,000 feet of the center line of the route, and all FM radio transmitters, microwave relay stations, or other similar electronic installations located within 2,000 of the center

line of the route. Provide a general description of each installation and its distance from the center line of the route. Locate all listed installations on a routing map.

Response: Several communication towers were located within the study area. Communication towers may include a mix of cellular phone communications, microwave towers, and other similar electronic installations located throughout the study area. No AM or FM radio transmitters were identified within the study area. No AM radio transmitters were located within 10,000 feet of the study area. No FM radio transmitters were located within 2,000 feet of the study area. There are two cellular and 13 microwave installations on six communication towers located within the study area A listing, general description, and approximate distance from the centerline for electronic installations along each of the alternative routes are presented in Table 4-4, and in Appendix C to the EA (**Attachment 1**), and the locations of these electronic installations are shown on Figure 4-1 (Map Pocket), in the EA.

23. Airstrips:

For each route, list all known private airstrips within 10,000 feet of the center line of the project. List all airports registered with the Federal Aviation Administration (FAA) with at least one runway more than 3,200 feet in length that are located within 20,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 100:1 horizontal slope (one foot in height for each 100 feet in distance) from the closest point of the closest runway. List all listed airports registered with the FAA having no runway more than 3,200 feet in length that are located within 10,000 feet of the center line of any route. For each such airport, indicate whether any transmission structures will exceed a 50:1 horizontal slope from the closest point of the closest runway. List all heliports located within 5,000 feet of the center line of any route. For each such heliport, indicate whether any transmission structures will exceed a 25:1 horizontal slope from the closest point of the closest landing and takeoff area of the heliport. Provide a general description of each listed private airstrip, registered airport, and heliport; and state the distance of each from the center line of each route. Locate and identify all listed airstrips, airports, and heliports on a routing map.

Response: There are no private airstrips within 10,000 feet of the proposed centerline of any of the alternative routes.

There are no FAA-registered airports with a runway less than 3,200 feet within 10,000 feet of the proposed centerline of any of the alternative routes.

There are four FAA-registered airports with a runway longer than 3,200 feet within 20,000 feet of the proposed centerline of the alternative routes. The number of airports located within 20,000 feet of an alternative route centerline ranges from one (with respect to two of the alternative routes) to three (with respect to six of the alternative routes).

There is one heliport within 5,000 feet of fifteen of the alternative route centerlines.

Table 4-1 within Appendix C of the EA (**Attachment 1**) provides the number of listed facilities for each alternative route. Each facility is listed and described with the approximate distance from the centerline for each of the alternative routes in Table 4-3 within Appendix C of the EA (**Attachment 1**). Table 4-3 also lists those portions of alternative route segments that may exceed the horizontal slope assuming a tower height of 100 feet. Facilities that are within or proximal to the study area are shown on Figure 4-1 (Map Pocket) within **Attachment 1**. Some of the facilities are several miles beyond the map extents.

24. Irrigation Systems:

For each route identify any pasture or cropland irrigated by traveling irrigation systems (rolling or pivot type) that will be traversed by the route. Provide a description of the irrigated land and state how it will be affected by each route (number and type of structures, etc.). Locate any such irrigated pasture or cropland on a routing map.

Response: The alternative routes do not cross any pasture or cropland that utilizes any known, traveling irrigation systems (either rolling or pivot types).

25. Notice:

Notice is to be provided in accordance with 16 TAC § 22.52.

Provide a copy of the written direct notice to owners of directly affected land. Attach a list of the names and addresses of the owners of directly affected land receiving notice.

Response: A copy of the written direct notice to owners of directly affected land is provided in **Attachment 7**. A list of the names and addresses of the landowners receiving notice is provided in **Attachment 6**. In accordance with PUC Proc. R. 22.52(a)(4), CenterPoint Energy mailed notice directly to the owners of land, as stated on the current county tax rolls, who would be directly affected by this Application by having a habitable structure within 300 feet of the centerline or owning land that would be crossed by any of the proposed alternative routes. CenterPoint Energy used 320 feet to account for any horizontal variation between the aerial photography and the county's parcel shapefile

Provide a copy of the written notice to utilities that are located within five miles of the routes.

Response: A copy of the written notice to electric utilities located within five miles of an alternative route is provided in **Attachment 8**. The notice was mailed to the following electric utilities located within five miles of an alternative route: Entergy Texas.

In addition to notifying electric utilities located within five miles of an alternative route, CenterPoint Energy also mailed written notice to owners of pipelines with facilities paralleled or crossed by an alternative route. A copy of the written notice to such pipeline owners is provided as **Attachment 9**.

Provide a copy of the written notice to county and municipal authorities, and the Department of Defense Siting Clearinghouse. Notice to the DoD Siting Clearinghouse should be provided at the email address found at http://www.acq.osd.mil/dodsc/.

Response: A copy of the written notice to county and municipal authorities and a list of officials notified are provided as **Attachment 10**. A copy of the written notice to the Office of Public Utility Counsel is provided as **Attachment 11**. A copy of the written notice to the Department of Defense Military Aviation and

Installation Assurance Siting Clearinghouse is provided as **Attachment 12** and will also be sent to the applicable email address.

Provide a copy of the notice that is to be published in newspapers of general circulation in the counties in which the facilities are to be constructed. Attach a list of the newspapers that will publish the notice for this application. After the notice is published, provide the publisher's affidavits and tear sheets.

Response: Copies of the notice to be published in the Houston Chronicle and The Baytown Sun, newspapers of general circulation in Chambers County, are provided as **Attachment 13**. Publisher's affidavits and tear sheets will be provided after the notice is published and the affidavits are received.

For a CREZ application, in addition to the requirements of 16 TAC § 22.52 the applicant shall, not less than twenty-one (21) days before the filing of the application, submit to the Commission staff a "generic" copy of each type of alternative published and written notice for review. Staff's comments, if any, regarding the alternative notices will be provided to the applicant not later than seven days after receipt by Staff of the alternative notices, Applicant may take into consideration any comments made by Commission staff before the notices are published or sent by mail.

Response: This provision is not applicable to the proposed project, because it is not a CREZ project.

26. Parks and Recreation Areas:

For each route, list all parks and recreational areas owned by a governmental body or an organized group, club, or church and located within 1,000 feet of the center line of the route. Provide a general description of each area and its distance from the center line. Identify the owner of the park or recreational area (public agency, church, club, etc.). List the sources used to identify the parks and recreational areas. Locate the listed sites on a routing map.

Response: HALFF performed a review of federal and state databases, and county and local maps to identify parks and/or recreational areas within the Study Area.

Reconnaissance surveys were also conducted to identify any additional park or recreational areas that are located within the study area.

Three of the proposed alternative routes cross a park or recreation area. The length of route across parks or recreation areas ranges from zero for Proposed Alternative Routes 1 through 4 and 8 through 20, to approximately 315 feet for Proposed Alternative Routes 5 through 7. The number of additional parks or recreation areas that are located within 1,000 feet of proposed alternative route centerline ranges from zero for Proposed Alternative Routes 5 through 20, to one for Proposed Alternative Routes 1 through 4. Refer to Table 4-1 (Appendix C) for the number of parks or recreation areas crossed and located within 1,000 feet of the proposed alternative routes.

General descriptions of parks and recreational areas are provided in Section 2.2 and Section 4.2 of the EA. Table 4-5 in Appendix C of the EA (Attachment 1) lists the distances from the centerline of the alternative routes. The location of McLeod Park is shown in Figure 4-1 (Map Pocket) in the EA.

27. Historical and Archeological Sites:

For each route, list all historical and archeological sites known to be within 1,000 feet of the center line of the route. Include a description of each site and its distance from the center line. List the sources (national, state or local commission or societies) used to identify the sites. Locate all historical sites on a routing map. For the protection of the sites, archeological sites need not be shown on maps.

Response: To identify historical and archeological sites in the study area, HALFF researched available records and literature at the Texas Archeological Research Laboratory at the University of Texas at Austin. In addition, the Texas Historical Commission's Archeological Sites Atlas (TASA) files were used to identify listed and eligible National Register of Historical Places (NRHP) properties and sites, NRHP districts, cemeteries, Official Texas Historical Markers, State Archeological Landmarks, and any other potential cultural resources such as National Historic Landmarks, National Monuments, National Memorials, National Historic Sites, and National Historical Parks to ensure the completeness of the study. To identify

areas with a high probability for the occurrence of cultural resources, HALFF used 7.5-minute topographic maps and aerial photography.

No National Register of Historical Places (NRHP) properties and sites, NRHP districts, cemeteries, State Archeological Landmarks, or any other potential cultural resources such as National Historic Landmarks, National Monuments, National Memorials, National Historic Sites, and National Historical Parks were identified within 1,000 feet of any alternative route. One Official Texas Historical Marker and three recorded archaeological sites were identified within 1,000 feet of alternative routes. One of the three recorded archaeological sites are crossed by alternative routes 15 through 19.

General descriptions of the historical and archeological resources are provided in Section 2.3 and Section 4.3 of the EA. Table 4-6 in Appendix C of the EA (**Attachment 1**) lists the distances from the centerline of the alternative routes. For the protection of the sites, archeological sites are not shown on the maps.

28. Coastal Management Program:

For each route, indicate whether the route is located, either in whole or in part, within the coastal management program boundary as defined in 31 TAC §503.1. If any route is, either in whole or in part, within the coastal management program boundary, indicate whether any part of the route is seaward of the Coastal Facilities Designation Line as defined in 31 TAC §19.2(a)(21). Using the designations in 31 TAC §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

Response: All 20 alternative routes are located either wholly within or partially within the coastal management program boundary as defined in 31 TAC §503.1. Alternative Routes 1 through 12 are partially located within the coastal management program boundary, ranging from 1.24 miles for Alternative Route 3 to 2.51 miles for Alternative Route 12. Alternative Routes 13 through 20 are located wholly within the coastal management program boundary, ranging from 2.97 miles for Alternative Route 14 to 5.66 miles for Alternative Route 18. All the alternative routes are located wholly or partially seaward of the Coastal Facilities Designation Line as defined in 31 TAC §19.2(a)(21).

The proposed alternative routes are not anticipated to cross any known designated Submerged Aquatic Vegetation, Tidal Sand or Mud Flats. These coastal natural resource areas typically occur within the coastal estuarine and marine areas located south of and wholly outside of the study area. Coastal Natural Resource Areas potentially impacted by alternative routes include coastal wetlands (NWI mapped freshwater emergent wetlands) and special hazard areas (FEMA mapped floodplains). Alternative Routes 8 through 20 will cross special hazard areas within the coastal management program boundary; however, no construction activities are anticipated that would impede the flow of water within watersheds or floodplains. Alternative Routes 2, 3, and 9 through 20 likely cross coastal wetlands (NWI mapped freshwater emergent wetlands). Additionally see the table below for lengths of possible impacts for each proposed alternative route to Coastal Natural Resource Areas.

Alternative Route	Length Crossing NWI Mapped Wetlands (feet)	Length Crossing Special Hazard Areas: FEMA Mapped Floodplains (feet)
1	None	None
2	223	None
3	223	None
4	None	None
5	None	None
6	None	None
7	None	None
8	None	75
9	225	75
10	232	75
11	232	75
12	439	75
13	237	101
14	1,022	101
15	191	3,800
16	191	3,800
17	191	3,800
18	722	5,484
19	722	5,484
20	414	2,955

All 20 alternative routes likely cross waters under tidal influence within the coastal management program boundary. CenterPoint Energy proposes to span all surface waters to the extent feasible. Additionally, the implementation of a SWPP and BMPs, if required, will also minimize potential impacts. Therefore, no significant adverse impacts are anticipated to any coastal wetlands, state submerged lands, coastal shore areas, and waters under tidal influence crossed by any of the alternative routes.

29. Environmental Impact:

Provide copies of any and all environmental impact studies and/or assessments of the project. If no formal study was conducted for this project, explain how the routing and construction of this project will impact the environment. List the sources used to identify the existence or absence of sensitive environmental areas. Locate any environmentally sensitive areas on a routing map. In some instances, the location of the environmentally sensitive areas or the location of protected or endangered species should not be included on maps to ensure preservation of the areas or species. Within seven days after filing the application for the project, provide a copy of each environmental impact study and/or assessment to the Texas Parks and Wildlife Department (TPWD) for its review at the address below. Include with this application a copy of the letter of transmittal with which the studies/assessments were or will be sent to the TPWD.

Wildlife Habitat Assessment Program Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

The applicant shall file an affidavit confirming that the letter of transmittal and studies/assessments were sent to TPWD.

Response: CenterPoint Energy contracted with Halff Associates to evaluate the environmental impact of the proposed project. A copy of the EA prepared by HALFF is included as **Attachment 1** to this application. The EA includes environmental sources, routing maps with environmentally-sensitive areas identified, and information on protected and endangered species within or near the study area.

CenterPoint Energy will provide a copy of the EA to TPWD within seven days after the application is filed. A copy of the letter of transmittal to TPWD is provided as **Attachment 14** to this application. An affidavit from Alice Hart confirming that the letter of transmittal and a copy of the EA were sent to TPWD will be sent to the PUC.

30. Affidavit

Attach a sworn affidavit from a qualified individual authorized by the applicant to verify and affirm that, to the best of their knowledge, all information provided, statements made, and matters set forth in this application and attachments are true and correct.

Response: An affidavit from Bradley J. Diehl is provided as **Attachment 15**.