

APPLICATION OF
CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
TO AMEND A CERTIFICATE OF CONVENIENCE AND NECESSITY
FOR A PROPOSED 345 KV TRANSMISSION LINE
WITHIN BRAZORIA, MATAGORDA, AND WHARTON COUNTIES

DOCKET NO. 48629

Submit seven (7) copies of the application and all attachments supporting the application. If the application is being filed pursuant to P.U.C. SUBST. R. 25.101(b)(3)(D) or P.U.C. Subst. R. 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 N. Congress Ave.
Austin, Texas 78711-3326

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**Application of CenterPoint Energy Houston Electric, LLC
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within Brazoria, Matagorda, and Wharton Counties**

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Prepared September 2018

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Attachments:

1. Environmental Assessment and Alternative Route Analysis for the 345 kV Bailey-Jones Creek Project in Brazoria, Matagorda, and Wharton Counties, Texas
2. ERCOT Independent Review of the CenterPoint Energy Freeport Master Plan Project
3. Franchise Agreement between CenterPoint Energy Houston Electric, LLC and the City of Jones Creek
4. Franchise Agreement between CenterPoint Energy Houston Electric, LLC and the City of Freeport
5. CenterPoint Energy Freeport Area Master Plan Project study - Non-Confidential Version (Confidential Version will be provided upon the adoption of the Protective Order)
6. Schematic of CenterPoint Energy's Existing Transmission System
7. Cost Estimates for Proposed Alternative Routes
8. List and Map of Directly Affected Landowners and Owners of Habitable Structures
9. Written Direct Notice to Landowners
10. Written Direct Notice to Electric Utilities Located Within Five Miles
11. Written Direct Notice to Pipeline Owners Paralleled or Crossed
12. Written Direct Notice to County and Municipal Authorities and List of Officials Notified
13. Written Direct Notice to the Office of Public Utility Counsel
14. Newspaper Notice
15. Transmittal Letter to Texas Parks and Wildlife Department
16. Written Direct Notice to the Department of Defense Siting Clearinghouse
17. Affidavit of Lesli B. Cummings

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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.

CenterPoint Energy will hold the sole ownership interest in the proposed project. No entity will hold an ownership or investment interest in the proposed project that is not subject to the Commission's jurisdiction.

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

Name: Robert W. Jackson

Title/Position: Manager of Regulatory Affairs

Phone Number: 713-207-5584

Mailing Address: P.O. Box 1700, Houston, Texas 77251-1700

Email Address: robert.jackson@centerpointenergy.com

Alternate Contact: Lesli B. Cummings

Title/Position: Manager, Transmission Accounts and Support

Phone Number: 713-207-7617

Mailing Address: P.O. Box 1700, Houston, TX 77251-1700

Email Address: lesli.cummings@centerpointenergy.com

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Legal Counsel: Patrick H. Peters III
Phone Number: 512-397-3032
Mailing Address: 1005 Congress Avenue, Suite 650, Austin, Texas 78701
Email Address: patrick.peters@centerpointenergy.com

4. Project Description:

Name or Designation of Project: 345 kV Bailey-Jones Creek 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: CenterPoint Energy proposes to construct a new 345 kV double-circuit transmission line extending from the existing 345 kV Bailey substation to the existing 345 kV Jones Creek substation, in addition to upgrades to both substations (“the Project”). CenterPoint Energy is proposing thirty (30) alternative routes for this transmission line. The thirty (30) proposed alternative routes are presented on Figure 5-1 (Sheets 1-6 in the Map Pockets) in the Environmental Assessment and Alternative Route Analysis for the 345 kV double-circuit Bailey-Jones Creek (“the EA”), which is **Attachment 1** to this application. The 345 kV Bailey-Jones Creek transmission line design voltage rating and the operating voltage ratings are both 345 kV. No new substations and no substation reactive compensation are proposed as part of this project. The only series elements associated with the project are sectionalizing switching devices and other typical in-line series substation elements located at the Bailey and Jones Creek 345 kV substations. The proposed 345 kV Bailey-Jones Creek Project does not include any HVDC transmission lines.

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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 also 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: Not applicable.

5. Conductor and Structures:

Conductor Size and Type: 959.6 kcmil ACSS/TW Suwannee (Aluminum Conductor, Steel Supported Trapezoidal Wire)

Number of conductors per phase: Three

Continuous Summer Static Current Rating (A): 5265

Continuous Summer Static Line Capacity at Operating Voltage (MVA): 3147

Continuous Summer Static Line Capacity at Design Voltage (MVA): 3147

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Type and composition of Structures:

Response: The typical structures for all route segments will be double-circuit lattice steel towers with a vertical phase configuration in a 100-foot wide ROW for the proposed alternative route segments. Depending on the terrain and other considerations, such as the length of span between structures and clearance requirements needed to cross rivers, wetland areas, FAA determinations or utility and roadway crossings, CenterPoint Energy may require wider ROW widths and alternative structure types, either tubular steel poles or delta lattice steel towers. Construction of lattice steel towers and tubular steel poles will require drilled pier foundations made of steel-reinforced concrete. The nominal span length between all proposed structure types will be approximately 850 feet. 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: Typical lattice steel tower height with a vertical phase configuration can range from 151 to 171 feet tall depending on terrain and required National Electrical Safety Code (“NESC”) clearances. Typical lattice steel tower height with a delta configuration can range from 136 to 156 feet tall depending on terrain and required NESC clearances.

Typical tubular steel pole height with a vertical phase configuration can range from 150 to 170 feet tall depending on 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.

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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 steel towers; double-circuit delta lattice steel towers; and double-circuit and single circuit vertical tubular steel poles.

Landowner Preference

When asked on the questionnaire if respondents preferred a certain type of transmission line structure to be used for the Project, 33 of the respondents answered yes, 22 indicated that they did not have a preference, and the remaining 22 left the question blank. Of the 33 responses indicating yes, 20 of the respondents preferred double-circuit steel and single-circuit vertical tubular poles and six preferred a structure that would have the least impact.

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 CNP structure designs;
- potential land-use impacts; and
- costs.

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Why typical structures were selected

The alternative structures were evaluated and compared by how each alternative addressed the engineering factors considered. On a general basis, vertical steel lattice towers and vertical steel tubular poles are preferred over delta steel lattice towers because delta steel lattice towers require a wider ROW (150 feet for delta towers, versus 100 feet for the other structures).

While the ROW requirements for the vertical steel lattice towers and vertical tubular steel poles are comparable, there are differences in other respects. Much of the Study Area has soft soil conditions, which favor the use of steel lattice towers due to the foundation requirements of steel poles. In soft soils, tubular steel poles required significantly deeper foundations. Conductor capacity of steel lattice towers and steel poles is comparable. Construction of steel poles requires less assembly than steel lattice towers, yet as previously mentioned, tubular steel poles may require deeper foundation construction. Further, maintenance requirements of steel poles are typically less than those of steel lattice towers. Potential land-use issues such as collision risks from farm equipment, livestock, and automotive traffic can favor the use of steel poles with smaller footprints.

Cost Comparisons

Based on CenterPoint Energy's analysis of the structure types, cost estimates were developed for the proposed project using the vertical steel lattice towers and vertical tubular steel pole structures. A comparison of the costs showed that the lowest cost solution utilized vertical lattice steel towers. This was the structure type used for the base line of the screening estimates for the review of the proposed alternative routes. CenterPoint Energy also took a sampling of the proposed alternative routes and developed estimated costs using tubular steel poles and delta lattice steel towers. These screening estimates validated that routes using double-circuit vertical lattice steel towers were the least cost option. The proposed alternative

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TABLE 1: RIGHT-OF-WAY

	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	Alternative Route 11	Alternative Route 12	Alternative Route 13	Alternative Route 14	Alternative Route 15
ROW	B-D-C-L-P-T-V-W-Y-Z-AP-BK-BL-CT-CU-CX-DD-DE-DH-DL-DN-DS-DT-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-AP-BK-BM-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-BI-BX-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BK-BL-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-FQ-FY-GC-GE-HQ-HR-CB-BU-BW-BJ-BK-BL-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CQ-CR-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-G-J-K-M-GI-GO-GP-FW-FY-GD-GE-HQ-HR-HS-IM-IN-CQ-CR-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-G-J-K-M-O-GI-GO-GQ-GR-GT-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-EM-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-O-GI-GO-GQ-GR-GT-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-EM-EQ-EU-FB-FF-FN-FP	B-E-K-N-GF-GH-GK-GN1-GN2-HA1-HA2-HE-HV-IB-IC-HL-HM-HO-HQ-HR-HS-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-GN2-HA1-HA2-HE-HV-IB-IC-HL-HM-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-GN2-HA1-HA2-HE-HV-IB-IC-HL-HM-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GM-GX-GZ-HB-HF-HG-HM-HO-HQ-HR-HS-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GG-GX-GZ-HB-HU-HX-IB-IC-ID-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP
Required (miles)	56.3	53.9	57.8	56.1	55.2	72.9	71.3	75.0	73.9	73.3	77.6	79.8	78.4	78.8	84.0
Circuit (miles)	112.6	107.8	115.6	112.2	110.4	145.8	142.6	150.0	147.8	146.6	155.2	159.6	156.8	157.6	168.0
Width (feet)	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property
Acquired (%)	1.3	1.4	1.3	1.3	1.3	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
ROW	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-CU-CW-CZ-DA1-DA2-IX-IZ-DJ-DK-DV-DX-EF-JE-EN-EQ-EU-FB-FF-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-CU-CW-CZ-DA1-DA2-IX-IZ-DJ-DK-DV-DX-EF-JE-EN-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-GF-GH-GK-GN1-JB-HA2-HD-HF-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-G-J-K-N-GF-GH-GK-GN1-JB-HA2-HD-HF-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-D-C-L-FQ-FY-GC-GE-HQ-HR-HS-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CC-CE-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-ER1-ER2-EV-EZ-FC-FI-FN-FP	B-D-C-L-FQ-FY-GC-GE-HQ-HR-HS-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-AP-BK-BM-CS-CT-CV-DA1-DA2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ER2-EV-EZ-FC-FM-FO-FP
Required (miles)	57.4	58.4	84.3	74.7	68.1	56.7	58.5	74.6	70.9	72.4	72.1	60.2	57.8	57.8	59.5
Circuit (miles)	114.8	116.8	168.6	149.4	136.2	113.4	117.0	149.2	141.8	144.8	144.2	120.0	115.6	115.6	119.0
Width (feet)	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property
Acquired (%)	1.3	1.3	0.9	1.0	1.1	1.3	1.3	1.0	1.0	1.0	1.0	1.2	1.3	1.3	1.2

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ROW		B-D-C-L-P-T-V-W-Y-Z-AP-BK-BL-CT-CU-CX-DD-DE-DH-DL-DN-DS-DT-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-AP-BK-BM-CS-CT-CU-CW-CY-DB-DD-DF-DI-DK-DV-DW-EF-JE-EO-EP-ET-EU-FB-FF-FN-FP	B-D-F-H-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ES-ER1-ER2-EW-FA-FF-FN-FP	B-D-F-H-L-P-U-V-X-Y-Z-BI-BX-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DP-DR-DS-DU-EP-ET-EU-FB-FF-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CU-CW-CY-DC-IZ-JA-FP	B-D-F-H-L-FQ-FY-GC-GE-HQ-HR-CB-BU-BW-BJ-BK-BL-CT-CU-CW-CY-DB-DD-DF-DG-DH-DM-DV-DX-EF-EM-EQ-EU-EX-EY-EZ-FD-FG-FH-FO-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CC-CE-IN-IO1-IO2-IX-IZ-JA-FP	B-G-J-K-M-GI-GO-GP-FW-FY-GD-GE-HQ-HR-HS-IM-IN-CQ-CR-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-G-J-K-N-O-GI-GO-GQ-GR-GT-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-EM-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-GF-GH-GL-GO-GQ-GS-GT-HP-IE-IL-IM-IN-CQ-CR-CS-CT-CU-CW-CY-DC-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-JB-HA2-HD-HU-HW-IC-ID-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GM-GX-GZ-HC-HE-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-GN2-HA1-HA2-HE-HV-IB-IC-HL-HM-HO-HQ-HT-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GM-GX-GZ-HB-HF-HG-HM-HO-HQ-HR-HS-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GG-GX-GZ-HB-HU-HX-IB-IC-ID-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP
Required (miles)		56.3	53.9	57.8	56.1	55.2	72.9	71.3	75.0	73.9	73.3	77.6	79.8	78.4	78.8	84.0
Circuit (miles)		112.6	107.8	115.6	112.2	110.4	145.8	142.6	150.0	147.8	146.6	155.2	159.6	156.8	157.6	168.0
Width (feet)	New	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Existing	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property
Acquired (%)		1.6	1.7	1.6	1.6	3.3	1.2	2.5	2.4	1.2	2.5	2.3	2.3	2.3	2.3	2.1
ROW		Alternative Route 16	Alternative Route 17	Alternative Route 18	Alternative Route 19	Alternative Route 20	Alternative Route 21	Alternative Route 22	Alternative Route 23	Alternative Route 24	Alternative Route 25	Alternative Route 26	Alternative Route 27	Alternative Route 28	Alternative Route 29	Alternative Route 30
ROW		B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CU-CW-CZ-DA1-DA2-IX-IZ-DJ-DK-DV-DX-EF-JE-EN-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-GF-GH-GK-GM-GX-GY-HA1-HA2-HD-HU-HW-IC-ID-IE-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-G-J-K-N-GF-GH-GK-GN1-JB-HA2-HE-HG-HL-ID-IE-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-CQ-CR-CS-CT-CU-CW-CY-DB-DD-DF-DI-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-E-K-N-GF-GH-GK-GN1-JB-HA2-HD-HF-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CC-CE-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-FQ-FY-GC-GE-HQ-HR-HS-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DL-DO-DP-DR-DS-DT-ER1-ER2-EV-EZ-FD-FG-FH-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-AP-BK-BM-CS-CT-CV-DA1-DA2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ET-EU-FB-FF-FN-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-JD-DL-DO-DQ-DR-DS-DT-ES-JF-ER2-EV-EZ-FD-FG-FI-FN-FP
Required (miles)		57.4	58.4	84.3	74.7	68.1	56.7	58.5	74.6	70.9	72.4	72.1	60.2	57.8	57.8	59.5
Circuit (miles)		114.8	116.8	168.6	149.4	136.2	113.4	117.0	149.2	141.8	144.8	144.2	120.0	115.6	115.6	119.0
Width (feet)	New	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Existing	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property	150-300; Substation Property
Acquired (%)		3.1	1.5	2.1	2.4	1.3	1.6	1.5	1.2	1.3	1.2	1.2	1.5	1.6	1.6	1.5

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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 travel through Brazoria, Matagorda, and Wharton Counties. The land uses in this area are diverse, ranging from agricultural and ranching to residential, commercial, and industrial. As the project extends east from Wharton County into Matagorda and Brazoria Counties the terrain varies from coastal plains to riparian forests. For additional information regarding the land uses and terrain in the study area, please refer to the EA, **Attachment 1**.

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 that will be associated with the new transmission line. The existing substations associated with the proposed new transmission line are the CenterPoint Energy-owned Bailey and Jones Creek Substations. Both substations will be upgraded to add new 345 kV terminal positions, and the existing 345 kV transmission lines at Bailey Substation will require relocation within the existing ROW to accommodate the proposed new transmission line.

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

8. Estimated Schedule:

<u>Estimated Dates of:</u>	<u>Start</u>	<u>Completion</u>
Right-of-way and Land Acquisition	09/2019	12/2020
Engineering and Design	09/2019	09/2020
Material and Equipment Procurement	03/2020	09/2021
Construction of Facilities	01/2021	04/2022
Energize Facilities	04/2022	04/2022

9. Counties:

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

Response: The thirty proposed alternative routes are located in Brazoria, Matagorda, and Wharton Counties, Texas.

10. Municipalities:

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

Response: See **Table 2**. Figure 3-3, 3-4 (Sheets 1-6 in the Map Pockets), and 5-1 (Sheets 1-6 in the Map Pockets) in the EA, **Attachment 1**, show the location of alternative route segments in relation to the city limits.

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Table 2: Municipalities

ROUTE	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	Alternative Route 11	Alternative Route 12	Alternative Route 13	Alternative Route 14	Alternative Route 15
MUNICIPALITIES	B-D-C-L-P-T-V-W-Y-Z-AP-BK-BL-CT-CU-CX-DD-DE-DH-DL-DN-DS-DT-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-F-H-L-P-U-V-X-Y-Z-AP-BK-BM-CS-CT-CU-CW-CY-DB-DD-DF-DI-DK-DV-DW-EF-JE-EO-EP-ET-EU-FB-FF-FN-FP	B-D-F-H-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DQ-DR-DS-DU-EP-ES-ER1-ER2-EW-FA-FF-FN-FP	B-D-F-H-L-P-U-V-X-Y-Z-BI-BX-CM-CR-CS-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DP-DR-DS-DU-EP-ET-EU-FB-FF-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CU-CW-CY-DC-IZ-JA-FP	B-D-F-H-L-FQ-FY-GC-GE-HQ-HR-CB-BU-BW-BJ-BK-BL-CT-CU-CW-CY-DB-DD-DF-DG-DH-DL-DO-DP-DR-DS-DU-EP-ES-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CC-CD-CE-IN-IO1-IO2-IX-IZ-JA-FP	B-G-J-K-M-GI-GO-GP-FW-FY-GD-GE-HQ-HR-HS-IM-IN-CQ-CR-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-G-J-K-N-O-GI-GO-GQ-GR-GT-HO-HQ-HT-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-EM-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-GF-GH-GL-GO-GQ-GS-GT-HP-IE-IL-IM-IN-CQ-CR-CS-CT-CU-CW-CY-DC-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-JB-HA2-HD-HU-HW-IC-ID-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GM-GX-GZ-HC-HE-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GN1-GN2-HA1-HA2-HE-HV-IB-IC-HL-HM-HO-HQ-HT-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GH-GK-GM-GX-GZ-HB-HF-HG-HM-HO-HQ-HR-HS-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-N-GF-GG-GX-GZ-HB-HU-HX-IB-IC-ID-IE-IL-IM-IN-IO1-IO2-IX-IZ-JA-FP
BAY CITY											XX				
SWEENY			XX												
BRAZORIA	XX	XX				XX									
JONES CREEK	XX	XX	XX	XX	XX	XX			XX	XX	XX				
FREEPORT	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
MUNICIPALITIES	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CV-DA1-DA2-IX-IZ-JA-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BJ-BK-BM-CS-CT-CU-CW-CZ-DA1-DA2-IX-IZ-DJ-DK-DV-DX-EF-JE-EN-EQ-EU-FB-FF-FN-FP	B-G-J-K-N-GF-GH-GK-GM-GX-GY-HA1-HA2-HD-HU-HW-IC-ID-IE-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-G-J-K-N-GF-GH-GK-GN1-JB-HA2-HE-HG-HL-ID-IE-IL-IM-IN-IO1-JC-DA2-IX-IZ-JA-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-CQ-CR-CS-CT-CU-CW-CY-DB-DD-DF-DI-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-E-K-N-GF-GH-GK-GN1-JB-HA2-HD-HF-HG-HM-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-E-K-M-GI-GO-GQ-GS-GT-HP-IE-IL-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FG-FI-FN-FP	B-G-J-K-M-GI-GJ-FW-FY-GD-GE-HQ-HR-CC-CD-CE-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DX-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FE-FM-FO-FP	B-D-C-L-FQ-FY-GC-GE-HQ-HR-HS-IM-IN-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FD-FM-FO-FP	B-D-C-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DK-DV-DW-EF-JE-EO-EP-ES-ER1-ER2-EV-EZ-FC-FM-FO-FP	B-D-C-L-P-U-V-X-Y-Z-BI-BX-CM-CQ-IO1-IO2-IX-IZ-DJ-DL-DO-DP-DR-DS-DT-ER1-ER2-EV-EZ-FD-FG-FH-FO-FP	B-D-F-H-L-P-U-V-X-Y-AA-BU-BV-CD-CF-CM-CQ-IO1-IO2-IX-IZ-DJ-DL-DO-DQ-DR-DS-DT-ES-JF-ER2-EV-EZ-FD-FG-FI-FN-FP	
BAY CITY				XX				XX							
SWEENY							XX					XX			XX
BRAZORIA															
JONES CREEK		XX			XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
FREEPORT	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

XX – Denotes municipalities in which the route is to be constructed.

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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: A copy of the franchise agreements between CenterPoint Energy Houston Electric, LLC and the City of Jones Creek and the City of Freeport are provided in **Attachments 3 and 4** of this application.

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 the 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 the project except that some of the proposed alternative routes parallel or cross existing transmission facilities of other utilities. No other utility will be involved in the construction of the proposed project.

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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 7** for the cost estimates for each proposed alternative route for the Project including a breakdown of “Other” costs by major cost category and amount.

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

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projects, provide any documentation of the review and recommendation of a PURA §39.151 organization.

Response: CenterPoint Energy identified, and ERCOT confirmed, significant forecasted load growth from industrial customers in the Freeport, Texas area served by CenterPoint Energy. The proposed project is part of an interrelated set of improvements that are needed to maintain the reliability of CenterPoint Energy’s service in the Freeport area. The CenterPoint Energy Freeport Area Master Plan Project study describes CenterPoint Energy’s analysis of the need for the proposed project and other related improvements, and the non-confidential version is provided as **Attachment 5. A Confidential Version will be provided upon the adoption of the Protective Order.** The ERCOT Independent Review of the CenterPoint Energy Freeport Master Plan Project describes ERCOT’s analysis of the need for the proposed project and other related improvements, and is provided as **Attachment 2.** Figure 2-1 in **Attachment 5** provides an illustration of CenterPoint Energy’s transmission network in the Freeport area as of 2018. CenterPoint Energy’s analysis was based on the ERCOT Steady-State Working Group (SSWG) planning base cases published in February 2016. Designs were tested against the applicable NERC Reliability Standard TPL-001-4, ERCOT Transmission Planning Criteria, and CenterPoint Energy Transmission System Design Criteria. The proposed project, as part of the comprehensive set of improvements, including “bridge the gap upgrades” that are not part of this application, resolves the identified loading and voltage concerns.

The CenterPoint Energy Freeport Area Master Plan study (**Attachment 5**) addresses additional reliability issues in the Freeport area. The majority of the load in the Freeport area is industrial load, and therefore the load level is generally unaffected by weather or time of year. This situation will make it significantly more difficult to schedule maintenance outages on any of the 345 kV lines serving the Freeport area as the load grows. As a result, CenterPoint Energy included maintenance outage

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scenarios in its evaluation of potential solutions. The Freeport Area Master Plan Project resolves the loading and voltage concerns observed during maintenance outage scenarios.

ERCOT performed an independent review and analysis of the Freeport Area Master Plan Project (**Attachment 2**) and recommended the improvements proposed in this application. ERCOT determined that based on forecasted loads and scenarios analyzed, there is a reliability need to improve the transmission system in the Freeport area in the near-term (2020) and long-term (2022). The facilities proposed in this application constitute ERCOT's recommended long-term solution.

Historical load and estimated future load assumptions used by ERCOT in evaluating this project are provided in Figure 7.1 on page 15 of the ERCOT Independent Review (**Attachment 2**).

This project is not needed to provide service to a new transmission service customer; therefore, there is no documentation showing the proposed facilities are needed to provide service to a new transmission service customer.

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:

Distribution Alternatives

Distribution alternatives cannot resolve the transmission system loading and reliability issues identified in both the CenterPoint Energy Freeport Master Plan

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Project study (**Attachment 5**) and the ERCOT Independent Review (**Attachment 2**).

Upgrading Voltage, Bundling Conductors, or Adding Transformers

Upgrading of conductors was considered by CenterPoint Energy and ERCOT in their studies, Option 1 in the CenterPoint Energy Freeport Master Plan Project study (**Attachment 5**) and Option 5 in the ERCOT Independent Review (**Attachment 2**). Based on the reliability analysis, CenterPoint Energy concluded that Option 1 presented significant construction challenges and had the highest cost estimate of the alternatives CenterPoint Energy considered. ERCOT's Option 5 was not as robust a rebuild project and had a lower cost estimate. ERCOT identified that Option 5 had extreme event contingency limitations and resulted in very low voltage stability transfer increases when compared to the other new line options. Adding a third 345/138 kV autotransformer at Jones Creek substation is part of the comprehensive set of projects recommended by CenterPoint Energy; however, adding transformers cannot resolve the reliability concerns seen in the steady-state and stability analysis. CenterPoint Energy has already upgraded the voltage of the Freeport loop from 69 kV to 138 kV as part of the Freeport Area Upgrades which was submitted to ERCOT RPG in 2012. The project was completed in 2016. Upgrading the voltage level further is not possible because existing bulk transmission lines serving the Freeport area are already at 345 kV and load serving transmission lines are already 138 kV, both of which are the highest voltage levels in service in ERCOT for bulk power transfer and load serving capability respectively.

Distributed Generation

Analysis of distributed generation as an alternative is not required to be included in this application because CenterPoint Energy is an unbundled utility. However, given the size of the increased load in the Freeport area to be served (1340 MW of secured load), hundreds of distributed generation units would be required to offset that

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increase in load. Further, the distributed generation would likely not address the reliability issue for planning events and maintenance outage events, which are addressed by the Bailey to Jones Creek Project.

Transmission Alternatives

In the CenterPoint Energy Freeport Area Master Plan Project study (**Attachment 5**), CenterPoint Energy considered seven new line options in addition to an option that would upgrade existing circuits. The new line options considered connecting Jones Creek to existing or new 345 kV substations located on the closest 345 kV corridors.

ERCOT in its Independent Review (**Attachment 2**) considered a total of five options, four of which were similar to the CenterPoint Energy options.

ERCOT concluded that of the long-term (2022) alternatives studied, the Bailey to Jones Creek option met the reliability criteria in the most cost-effective manner. ERCOT and CenterPoint Energy concluded that the Bailey to Jones Creek option was the option best able to serve the new committed loads in the Freeport area, maintain transmission grid reliability, provide for future load growth, increase transfer capability to the Freeport area, and improve the ability to take 345 kV scheduled maintenance outages in the Freeport area.

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 in the proximate area of the project in Brazoria, Matagorda, and Wharton Counties is included as **Attachment 6**.

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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 Bailey-Jones Creek Project are consistent with Section 37.056(c)(4)(A) through (D) of the Public Utility Regulatory Act (“PURA”), 16 TAC §22.52(a)(4), 16 TAC §25.101(b)(3)(B), and the Commission’s policy of prudent avoidance. The methodology used to complete the routing study is summarized below.

POWER developed an initial base map to delineate the study area boundaries and initiate data collection activities. POWER, with input from CenterPoint Energy, identified the initial study area boundaries. Based on the location of the Bailey Substation and the Jones Creek Substation sites for the Bailey-Jones Creek project tie points, the study area was refined. The northern study area boundary is defined by the paralleling of an existing 138 kV transmission line that extends in a southeast-northwest direction. The southern study area boundary is defined by the paralleling of an inter-coastal canal extending westward to partially parallel an existing 345 kV transmission line and to provide routing space for additional geographic diversity. The western study area boundary partially parallels an existing 345 kV transmission line west of the Colorado River and Bay City. The eastern study area boundary was designed to include the Cities of Lake Jackson and Freeport, extending south to parallel the inter-coastal canal.

Initial reconnaissance surveys were conducted, and 61 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

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were sent to federal, state, and local agencies and officials to solicit additional information. Available 2014-2018 aerial photography and geographic information system (“GIS”) coverage with associated metadata were reviewed, and relevant resource data were selected and mapped. POWER conducted a resource analysis for development of an environmental and land use composite constraints map.

After the data was collected, POWER and CenterPoint Energy identified 261 feasible and geographically diverse preliminary transmission line segments. Three public meetings were held in accordance with 16 TAC §22.52 (a)(4). Modifications to the preliminary transmission line segments were completed based on the results of the public meetings, additional agency input, and a reconnaissance survey, which resulted in a final set of 165 segments that were combined into the proposed alternative routes presented in this application. Data was then tabulated for the evaluation criteria for each resulting proposed alternative route and a comparative potential impact assessment was completed. The 30 proposed alternative routes were divided into three geographic families, and 33 key evaluation criteria were derived from the 61 evaluation criteria to facilitate the comparison and selection of the proposed alternative routes within each proposed alternative route family. CenterPoint Energy analyzed the engineering feasibility and provided an estimated cost analysis for each of the proposed alternative routes. POWER incorporated these factors into the analysis and consensus process for the determination of the proposed alternative routes. CenterPoint Energy reviewed POWER’s determinations and concurred that each of the 30 alternative routes were feasible from an engineering, constructability, and cost perspective. An additional comparison between the routes from each route family was completed to select proposed alternative routes included in this application and then the route that best addresses the requirements of PURA and PUC Substantive Rules. As explained in more detail in the EA, many of the proposed alternative routes include segments that cross state-owned property and CenterPoint Energy cannot exercise eminent domain to acquire easements over state-owned property. In addition, the routes that do not cross state-owned property

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include segments that may require the relocation or removal of habitable structures. Because both factors are important to the Commission in evaluating the requirements of PURA and Commission rules, CenterPoint Energy has identified a proposed alternative route that best meets the criteria under PURA and Commission rules, and has identified an additional proposed alternative route that best meets the requirements under PURA and Commission rules from those routes that avoid state-owned property.

POWER identified Proposed Alternative Route 5 as the route that best addresses the requirements of PURA and Commission rules. POWER identified Proposed Alternative Route 5 based on the following rationale:

- It is the second shortest route at 55.2 miles.
- It crosses the least amount of residential land use areas with approximately 5.0 miles
- It has a comparably lower number of habitable structures within 500 feet of the route centerline of all of the proposed alternative routes with 181.
- It does not require any habitable structures be relocated or removed.
- It has a high percentage parallel to existing features, 75% of its length.
- It crosses approximately 0.75 mile of USACE designated Columbia bottomlands but does not cross any NWI mapped wetlands within USACE designated Columbia bottomlands.
- It crosses 10.8 miles of upland woodlands and crosses less than three miles (2.8 miles) of bottomland/riparian woodlands.
- It has a comparable number of stream crossings (63).
- It does not have any known recorded historical or archeological sites or NRHP-listed or determined-eligible properties within the ROW.

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POWER also identified Proposed Alternative Route 28 as the route that best meets the requirements of PURA and Commission Rules while not crossing state-owned property based on the following criteria:

- This is one of the shorter routes at 57.8 miles.
- It has a moderate number of habitable structures (275) within 500 feet of its centerline.
- There are three habitable structures along the proposed centerline that would potentially require relocation or removal.
- It has a high percentage of its length parallel to existing features (73%).
- It has a shorter total length across NWI-mapped wetlands (3.9 miles); and these potential impacts may be minimized by spanning wetland areas.
- It crosses approximately 1.75 miles of USACE-designated Columbia bottomlands and crosses approximately 0.07 mile of NWI-mapped wetlands within USACE-designated Columbia bottomlands. The portion of the route that crosses these areas could be spanned.
- It avoids and minimizes potential impacts to community values while environmental integrity is maximized.
- It does not have any known recorded historical or archeological sites or NRHP-listed or determined-eligible properties within its ROW.

CenterPoint Energy concurred with the selection of Proposed Alternative Route 5 as the route that best addresses the requirements of PURA and Commission rules. However, if the Commission prefers not to approve a route that crosses state-owned property, CenterPoint Energy identified Proposed Alternative Route 28 as the route that best meets the requirements under PURA and PUC Substantive Rules of those routes that avoid state-owned property.

A copy of the EA conducted by POWER is provided in **Attachment 1**.

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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 P.U.C. PROC. R. 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: CenterPoint Energy hosted three public meetings. The public meetings were held on the following dates at the following locations:

- February 6, 2018 from 5:00 to 8:00 p.m., Lake Jackson Civic Center, 333 Highway 332, Lake Jackson, TX 77566
- February 8, 2018 from 5:00 to 8:00 p.m., Wharton Civic Center, 1924 North Fulton Street, Wharton, TX 77488
- February 13, 2018 from 5:00 to 8:00 p.m., Bay City Civic Center, 201 Seventh Street, Bay City, TX 77414

A total of 147 people signed in at the three public meetings with a total of 192 people in attendance. CenterPoint Energy personnel registered visitors and handed out a questionnaire and information packet. The questionnaire solicited comments from landowners and other visitors, in addition to evaluations of the information presented in the public meetings. A copy of the questionnaire can be found in **Appendix B** of the EA, **Attachment 1**. Section 3.6.2 of the EA, **Attachment 1**, includes a detailed description of the public meetings and the responses received to the questionnaires.

CenterPoint Energy also provided six manned GIS computer stations at each meeting. Landowners were provided the opportunity to view their properties or areas of interest in more detail at the GIS stations. POWER staff recorded their comments

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in digital format and provided an annotated 8.5" X 11" color snapshot of the area of interest for the attendee to take home.

A video presentation was also provided during the public open house meetings to further explain the project and the process.

Copies of the direct letter notice and the published newspaper notice can be found in **Appendix B** of the EA. Individual notification letters announcing the public meetings were directly mailed by CenterPoint Energy to 2,398 landowners whose property is located within 530 feet of each of the preliminary transmission line segments. 530 feet was used to account for the ± 30 feet horizontal accuracy of the aerial photography used. In addition, CenterPoint Energy publicized the public meetings through a public notice published in the following local newspapers:

- Houston Chronicle: February 4, 2018
- The Facts: February 1, 2018
- The Wharton Journal-Spectator: February 3, 2018
- The Bay City Tribune: February 4, 2018

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).

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

- Figure 3-1. Preliminary Transmission Line Segments
- Figure 3-2. Revised Preliminary Transmission Line Segments
- Figure 3-3. Primary Transmission Line Segments
- Figure 3-4. Primary Transmission Line Segments with Environmental and Land Use Constraints (Topographic Base Map with Constraints) (Sheets 1-6 in the Map Pockets)
- Figure 5-1. Habitable Structures and Other Land Use Features in the Vicinity of the Proposed Alternative Routes (Aerial Photograph Base Map with CCN Inventory Items) (Sheets 1-6 in the Map Pockets)

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 5-1 of the EA, **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.

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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 8 (see CD)**.

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: Specific information concerning possible permits or approvals required by other governmental agencies for the construction of the Project is discussed in greater detail in Section 1.2 of the EA (**Attachment 1**) and in the direct testimonies of Rob R. Reid and Ryan K. Bayer.

- United States Army Corps of Engineers (“USACE”): The Project could require USACE’s Nationwide Permit (“NWP”) 12, a Section 404 permit for work in wetland areas, Section 10 of the Rivers and Harbors Act of 1899 permit, or some combination of these permits. If the proposed impacts of the Project exceed the criteria established under regional conditions listed under the NWP, then an Individual Permit would be required. No permit or authorization from the USACE has been obtained at this time.
- United States Fish and Wildlife Service (“USFWS”): The USFWS is charged with the responsibility for enforcement of federal wildlife laws and providing comments on proposed construction projects with a federal nexus under the National Environmental Protection Act (“NEPA”), and within the framework of several federal laws including the Endangered Species Act (“ESA”), Migratory Bird Treaty Act (“MBTA”), and Bald and Golden Eagle Protection Act. POWER reviewed the USFWS listed species for Brazoria, Matagorda, and Wharton County, Texas and solicited Texas Natural Diversity Database records

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from Texas Parks and Wildlife Department (“TPWD”). Upon PUC approval of a route, coordination with the USFWS – Clear Lake Ecological Services Field Office may be required to determine the need for any required species-specific surveys or additional permitting under Section 7 or 10 of the ESA and the MBTA. No permit or authorization from the USFWS has been obtained at this time.

- Federal Aviation Administration (“FAA”): Based on the FAA notification criteria and the route selected by the PUC, the Project may require a Notice of Proposed Construction or Alteration, FAA Form 7460-1, to be completed and submitted to the FAA Southwest Regional Office in Fort Worth, Texas. No permit or authorization from the FAA has been obtained at this time.

- Floodplain Management: Coordination with floodplain administrators for the counties within the Project study area may be required after PUC route approval to determine if any permits or mitigation is necessary. No permits or authorizations from such administrators have been obtained at this time.

- Texas Commission on Environmental Quality (“TCEQ”): The Project may require a Texas Pollution Discharge Elimination System General Permit and the development of a Stormwater Pollution Prevention Plan (“SWPPP”), which is a TCEQ storm discharge-related requirement. A determination of the need for SWPPP will be made after PUC approval of the route for the line. A Section 401 Water Quality Certificate from the TCEQ may also be required if the Project requires an USACE Individual Permit for proposed impacts to surface waters and/or wetlands as previously discussed. No permit or authorization from the TCEQ has been obtained at this time.

- Texas Historical Commission (“THC”): If necessary, CenterPoint Energy will conduct an on-the-ground cultural resources survey of the approved transmission

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line route and obtain clearance from the THC. No permit or authorization from THC has been obtained at this time.

- Texas Department of Transportation (“TxDOT”): If the PUC-approved transmission line is located within the ROW of, or crosses, any state-maintained road or highway, CenterPoint Energy will be required to obtain a road crossing permit. No permit or authorization from TxDOT has been obtained at this time.

- Texas General Land Office (“GLO”): The GLO requires a miscellaneous easement for ROW within any coastal submerged lands (tidally influenced) or state-owned riverbeds, and navigable streams (non-tidal). A miscellaneous easement may be required if the ROW for the approved transmission line crosses areas meeting these criteria. No permit or authorization from the GLO has been obtained at this time.

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 500 feet of the proposed alternative route centerlines range from 164 on Proposed Alternative Route 18, to 447 on Proposed Alternative Route 20. The tables in **Appendix D**, Tables 5-7

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through 5-37 of the EA, list the habitable structure map identification number, general description, and approximate distance from the centerline of all habitable structures located within 500 feet of the alternative routes. The locations of these structures are shown on Figure 5-1 (Sheets 1-6 in the Map Pockets) of the EA, **Attachment 1**.

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, POWER included habitable structures within 520 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: There are no known commercial AM radio transmitters located within 10,000 feet of the centerline of the proposed alternative routes. There are 25 known communication towers (FM radio transmitters, microwave relay stations, or other similar electronic installations) that are located within 2,000 feet of the proposed alternative routes. The number of FM radio transmitters, microwave towers, and other electronic installations located within 2,000 feet of the proposed alternative route centerlines range from three on Proposed Alternative Routes 15 and 25, to 11 on Proposed Alternative Route 3. A listing, general description, and approximate distance from the centerline for each of the proposed alternative routes are presented in Section 4.1.7 and in **Appendix D**, Tables 5-7 through 5-37 of the EA, and the locations of these electronic installations are shown on Figure 5-1 (Sheets 1-6 in the map pockets), of the EA, **Attachment 1**.

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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 8 private airstrips within 10,000 feet of the proposed alternative route centerlines. The number of private airstrips located within 10,000 feet of the proposed alternative routes ranges from one on Proposed Alternative Route 6, to four on Proposed Alternative Routes 12 and 14.

There are no FAA-registered airports with a runway longer than 3,200 feet within 20,000 feet of the centerline of all of the proposed alternative routes.

There is one FAA-registered airport (Bay City Municipal Airport) with a runway length of less than 3,200 feet within 10,000 feet of the centerline of 14 of the proposed alternative routes. Based on the FAA slope criteria, while taking into consideration the topographical elevations of each location, FAA notification may be required for all of the proposed alternative routes, because the transmission line structures may exceed the height and slope notification criteria for the airport.

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There are four heliports within 5,000 feet of 12 of the proposed alternative route centerlines. The number of heliports located within 5,000 feet of the proposed alternative routes ranges from none (zero) on 18 of the proposed alternative routes, to three for Proposed Alternative Route 18. Based on the FAA slope criteria, while taking into consideration the topographical elevations of each location, FAA notification may not be required for these proposed alternative routes, because the transmission line structures may not exceed the height and slope notification criteria for the heliport.

Each airport/airstrip/heliport is listed and described with the approximate distance from the ROW centerline for each of the alternative routes in Section 4.1.6.2 and **Appendix D**, Table 5-7 through 5-37 of the EA, **Attachment 1**. These facilities are shown on Figure 5-1 (Sheets 1-6 in the Map Pockets) of the EA, **Attachment 1**.

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: Proposed Transmission Line Segment GO is proposed to cross agricultural lands with known mobile irrigation systems (rolling or pivot). Proposed Alternative Routes 8, 9, 10 and 20 include Proposed Transmission Line Segment GO and have the only length across agricultural lands with known mobile irrigation systems (rolling or pivot) with approximately 0.1 mile each. The remaining 26 proposed alternative line routes do not cross any agricultural lands with known mobile irrigation systems.

25. Notice:

Notice is to be provided in accordance with P.U.C. PROC. R. 22.52.

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In accordance with 16 TAC §22.52(a)(2), CenterPoint Energy mailed a notice to the Department of Defense Siting Clearinghouse (“DOD”). A copy of the direct written notice to the DOD is provided in **Attachment 16**.

- A. *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 9**. A list of the names and addresses of the landowners receiving notice is provided in **Attachment 8**. In accordance with 16 TAC §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 520 feet of the centerline or owning land that would be crossed by any of the proposed alternative routes. CenterPoint Energy used 520 feet instead of 500 feet to account for the ±20 foot margin of error based on the horizontal accuracy of the aerial photography used to identify the habitable structures.

- B. *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 a proposed alternative route (including those transmission owners with facilities paralleled or crossed by an alternative route) is provided in **Attachment 10**. The notice was mailed to the following electric utilities located within five miles of an alternative route: AEP Texas Central Company, Jackson Electric Coop, Inc., South Texas Electric Co-Op, Inc., Texas-New Mexico Power Company, and Wharton County Electric Coop, Inc.

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In addition to notifying electric utilities located within five miles of a proposed alternative route, CenterPoint Energy also mailed written notice to owners of pipelines with facilities paralleled or crossed by a proposed alternative route. A copy of the written notice to such pipeline owners is provided as **Attachment 11**.

C. *Provide a copy of the written notice to county and municipal authorities.*

Response: A copy of the written notice to county and municipal authorities and a list of officials notified are provided as **Attachment 12**. A copy of the written notice to the Office of Public Utility Counsel is provided as **Attachment 13**.

D. *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*, *The Facts*, *The Wharton Journal-Spectator*, and *The Bay City Tribune*, newspapers of general circulation in Brazoria, Matagorda, and Wharton Counties, are provided as **Attachment 14**. 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 P.U.C. PROC. R. 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.

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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: Parks and recreation areas within 1,000 feet of the centerline of the proposed alternative routes were identified through federal, state, and local agency websites, county documents, published maps, and reconnaissance surveys. The lengths of proposed alternative routes that cross parks or recreational areas range from none (0.0 mile) on eleven of the proposed alternative routes, to approximately 5.0 miles for Proposed Alternative Routes 11, 15, and 18. A listing, general description, ownership, and approximate distance from the centerline for each of the alternative routes are presented in Section 4.2 and **Appendix D**, Tables 5-7 through 5-37 of the EA, and the locations of these parks and recreation areas are shown on Figure 5-1 (Sheets 1-6 in the Map Pockets) of the EA, **Attachment 1**.

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: A literature review and records search was conducted at the Texas Historical Commission and The Texas Archeological Research Laboratory at the

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University of Texas at Austin to identify known historical and archaeological sites located within 1,000 feet of the proposed alternative routes.

Based on this review, no archeological sites are crossed by the proposed alternative routes. The file review, including data from TARL, THSA, and TASA, indicated that there are 17 documented archeological sites within 1,000 feet of the proposed alternative routes (summarized in Table 4-6). Of these, five are prehistoric, 11 are historic, and one has historic and prehistoric components. There are three NRHP-listed properties located within 1,000 feet of the alternative route ROW centerlines.

Based on data from the THSA, TASA, and topographic maps, 20 cemeteries are located within 1,000 feet of the proposed alternative routes. None of these cemeteries is crossed by the proposed alternative routes. There are also two Historic Texas Cemeteries (Gulf Prairie Peach Point Cemetery and the Mims Family Cemetery) located within 1,000 feet of a proposed alternative route ROW centerline.

These sites are listed and described with the approximate distance from the ROW centerline for each of the proposed alternative routes in Section 4.3 and **Appendix D**, Tables 5-7 through 5-37 of the EA, and the locations of the NRHP-listed properties and the Ratliff Cemetery are shown on Figure 5-1 (Sheets 1-6 in the Map Pockets) of the EA, **Attachment 1**. For the protection of the archaeological sites, they are not shown on the routing 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 T.A.C. §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 T.A.C. §19.2(a)(21). Using the designations in 31 T.A.C. §501.3(b), identify the type(s) of Coastal Natural Resource Area(s) impacted by any part of the route and/or facilities.

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Response: All 30 Proposed Alternative Routes have some portion of their length within the Coastal Management Zone (CMZ). The length of proposed alternative routes within the CMZ ranges from approximately 19.3 miles for Proposed Alternative Route 6, to 37.1 miles for Alternative Routes 23 and 24. 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 in the southeastern portions of the study area.

All 30 Proposed Alternative Routes cross Special Hazard Areas (FEMA 100-floodplains) within the CMZ. No construction activities are anticipated that would impede the flow of water within watersheds or floodplains.

All 30 Proposed Alternative Routes likely cross Coastal Wetlands (NWI mapped estuarine and wetlands emergent) within the CMZ. All 30 Proposed Alternative Routes cross Waters Under Tidal Influence within the CMZ.

CenterPoint Energy proposes to span all surface waters to the extent feasible. Additionally, the implementation of a SWPPP 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 for any of the proposed 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

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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 POWER to evaluate the environmental impact of the proposed project. A copy of the EA prepared by POWER 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 15** to this application. An affidavit from Lesli B. Cummings 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.

**Application of CenterPoint Energy Houston Electric, LLC
to Amend a Certificate of Convenience and Necessity
for a Proposed 345 kV Transmission Line
within Brazoria, Matagorda, and Wharton Counties**

Response: An affidavit from Lesli B. Cummings is provided as **Attachment 17**.