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SOAH DOCKET NO. 473-25-11558
PUC DOCKET NO. 57579

APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR APPROVAL OF ITS 2026-2028 TRANSMISSION AND DISTRIBUTION SYSTEM RESILIENCY PLAN	**§ § § § §**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

April 9, 2025

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CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PUC DOCKET NO. 57579
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TEXAS INDUSTRIAL ENERGY CONSUMERS
REQUEST NO.: TIEC-RFI03-01

QUESTION:

Referring CenterPoint's Response to HCC-RFP01-02, Attachment I1 "Hurricane Nicholas Response and Restoration" at page 8, CenterPoint indicated that one of its Transmission Hardening activities is to "Implement cascading tower design to prevent multiple pole failures." With regard to this claimed activity, respond to the following:

a. Describe the event, or series of events, that led to this activity being among CenterPoint's storm hardening activities.

b. State the year that CenterPoint began implementing this activity.

c. State the various types of towers that are included in this activity.

d. State whether the "Legacy Transmission Structures" (as referenced in Response to TIEC-RFI-01-10 "Internal Drawing Number 194-120-01") are either a portion, or entirety, of the justification for this activity.

ANSWER:

a. As stated in responses to TIEC RFI 02-03 (l) in PUC Docket No. 57271, CenterPoint Houston has experienced the failures of multiple successive towers in the same right-of-way corridor during previous resiliency events. However, CenterPoint Houston is unable to definitively determine that these failures were caused by cascading structure failures.

   CenterPoint Houston's current transmission engineering practices include designing tangent transmission towers to fail in a specific manner to avoid a total structural failure. The tower arms are designed with a fail-safe mechanism so that the arms will fail before the base when exposed to longitudinal broken wire loading.

b. CenterPoint Houston and predecessor companies started to use the fail-safe arm mechanism on new tangent tower designs in the 1980s.

c. Please see response to TIEC 03-01 (b) above.

d. Legacy Transmission Structures, as referenced in the SRP filing, are a portion of the justification for this activity.

SPONSOR:
David Mercado

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
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TEXAS INDUSTRIAL ENERGY CONSUMERS
REQUEST NO.: TIEC-RFI03-02

QUESTION:

Regarding CenterPoint's Response to TIEC-RFI01-03:

a. Mr. Easton is reiterated with regard to his explanation that flexibility is required to "pivot within each Resiliency Measure, and from one Resiliency Measure to another as constraints are encountered…" As such, respond to the following:

   i. Elaborate on, and provide examples of, how pivoting would impact measure and project spending compared to what is presented in the SRP.

   ii. Elaborate on, and provide examples of, how pivoting would impact measure and project scope compared to what is presented in the SRP.

   iii. State the specific limitations CenterPoint would have on its ability to modify its spending and scope compared to what is presented in the SRP.

b. Please state whether CenterPoint's flexibility request would allow it to do the following without seeking a good cause exception:

   i. Completely cease execution of a program.

   ii. Completely cease execution of a resiliency measure.

   iii. Execute a measure or program at lower cost than projected, and use that money on other measures or programs. For example, install fewer towers under Transmission System Hardening and convert more 69kV circuits to 138 kV.

   iv. If GRIP funding is awarded, reallocate money to other measures or spend additional money in the same measure instead of reducing SRP costs which are allocated to customers on a one-for-one basis.

ANSWER:

Part A

i. Examples of how pivoting would impact measure and project spending compared to what is presented in the SRP include:

- Material lead time changes that may impact project spending and timing.
- Increase in material costs and tariffs may impact project spending since the estimates in the SRP were based on historical costs.
- Extreme weather events that may limit execution of projects and impact project spending and timing.

ii. Examples of how pivoting would impact measure and project scope compared to what is presented in the SRP include:

- Dependency on permits for construction that may require project scope changes, such as redesigns or changes in location.
- Regulatory or legislative changes that may impact project scope.
- Changes in SRP project scope due to other projects impacting the same area, such as need for

new distribution/substation/transmission projects to serve new loads.

iii. The ability to modify spending may be limited based on financial constraints for future years and regulatory approval for recovery of costs included in the SRP. The expected outcome of each project along with the Company's standards, design criteria, regulatory requirements, utility best practices, etc. defines the scope for each project. These may limit the ability on how much change can be made or drive changes to the scope of the projects presented in the SRP.

Part B

i. While ultimately up to the Commission, we anticipate that the Company's flexibility request would allow it to completely cease execution of an individual project or individual program within a resiliency measure without seeking a good cause exception.

ii. While ultimately up to the Commission, we anticipate that the Company's flexibilty request would not allow it to completely cease execution of a resiliency measure without seeking a good cause exception.

iii. While ultimately up to the Commission, we anticipate that the Company's flexibility request would allow it to execute a measure or individual program at a lower cost than projected and then use that money on other measures or programs without seeking a good cause exception.

iv. While ultimately up to the Commission, we anticipate that the Company's flexibility request would allow it to, if GRIP funding is awarded, reallocate money to other measures or spend additional money in the same measure instead of reducing SRP costs which are allocated to customers on a one-for-one basis without seeking a good cause exception.

SPONSOR:
Eric Easton

RESPONSIVE DOCUMENTS:
None

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TEXAS INDUSTRIAL ENERGY CONSUMERS
REQUEST NO.: TIEC-RFI03-03

QUESTION:

With regard to the discussion of wooden transmission structure replacements on page 88 of the SRP, it states "The Company is targeting to replace approximately 1,473 structures over the three-year period." However, in CenterPoint's Response to TIEC RFI01-10, subparts (a) and (b), the total amount of wooden transmission structures appears to be 653 (651 + 2). Please reconcile this difference and explain in detail the number of various wooden transmission structures being replaced.

ANSWER:

Please see response to HCC RFP 4-25 (a).

SPONSOR:
David Mercado

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
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TEXAS INDUSTRIAL ENERGY CONSUMERS
REQUEST NO.: TIEC-RFI03-04

QUESTION:

Referring to CenterPoint's Response to TIEC-RFI01-10 subpart (h):

a. Describe in detail the modeling that was done using PLS-CADD.

b. Provide and explain the NESC wind speed criteria that was used.

c. Provide a map identifying the wind speed criteria which CenterPoint applies to the various portions of its service area.

d. Provide the maximum wind speed below which the Legacy Transmission Steel Towers did not fail in the modeling.

e. Please state whether the S90 transmission structures proposed in (RM-8) were modeled using PLS-CADD. If yes, state (1) whether the structure met 2023 NESC wind loading criteria and (2) the maximum wind speed below which the S90 structure did not fail in the modeling.

f. Please state whether transmission structures other than Legacy Transmission Steel Towers and S90 towers were modeled using PLS-CADD. If yes, provide a list of the various structures and state, for each structure, (1) whether the structure met 2023 NESC wind loading criteria and (2) the maximum wind speed below which the structure did not fail in the modeling.

ANSWER:

a. Using PLS-CADD, Transmission engineering creates detailed 3D models of transmission lines that incorporate terrain, structure configurations, conductor behavior, and environmental loading. The process begins with LiDAR data to define the centerline and spot structures based on optimized spans, clearance requirements, and cost. Conductors and shield wires are modeled with sag-tension behavior, considering temperature changes and long-term creep. Various weather loading scenarios are applied to simulate worst-case conditions. All modeling complies with NESC C2-2023, the latest edition adopted by CenterPoint Houston as the design standard for wind and ice loading in both coastal and inland regions. The company designs all new transmission lines to Grade B loading, which uses the highest applicable NESC values and safety factors. Clearance checks and structural analysis—integrated with PLS-POLE or TOWER—ensure code compliance and structural integrity.

b. Please see response to HCC RFP 4-26 (b).

c. Please see NESC C2 2023 - Figure 250-2(a) Grade B, 100-year Mean Recurrence Interval (MRI) 3 s gust wind speed map in mph (m/s) at 33 ft (10 m) aboveground (continued) (ASCE 7-16).

   See attachment "TIEC 3-04 Houston Wind Map.pdf" for an example of this map overlaid on the Houston Area.

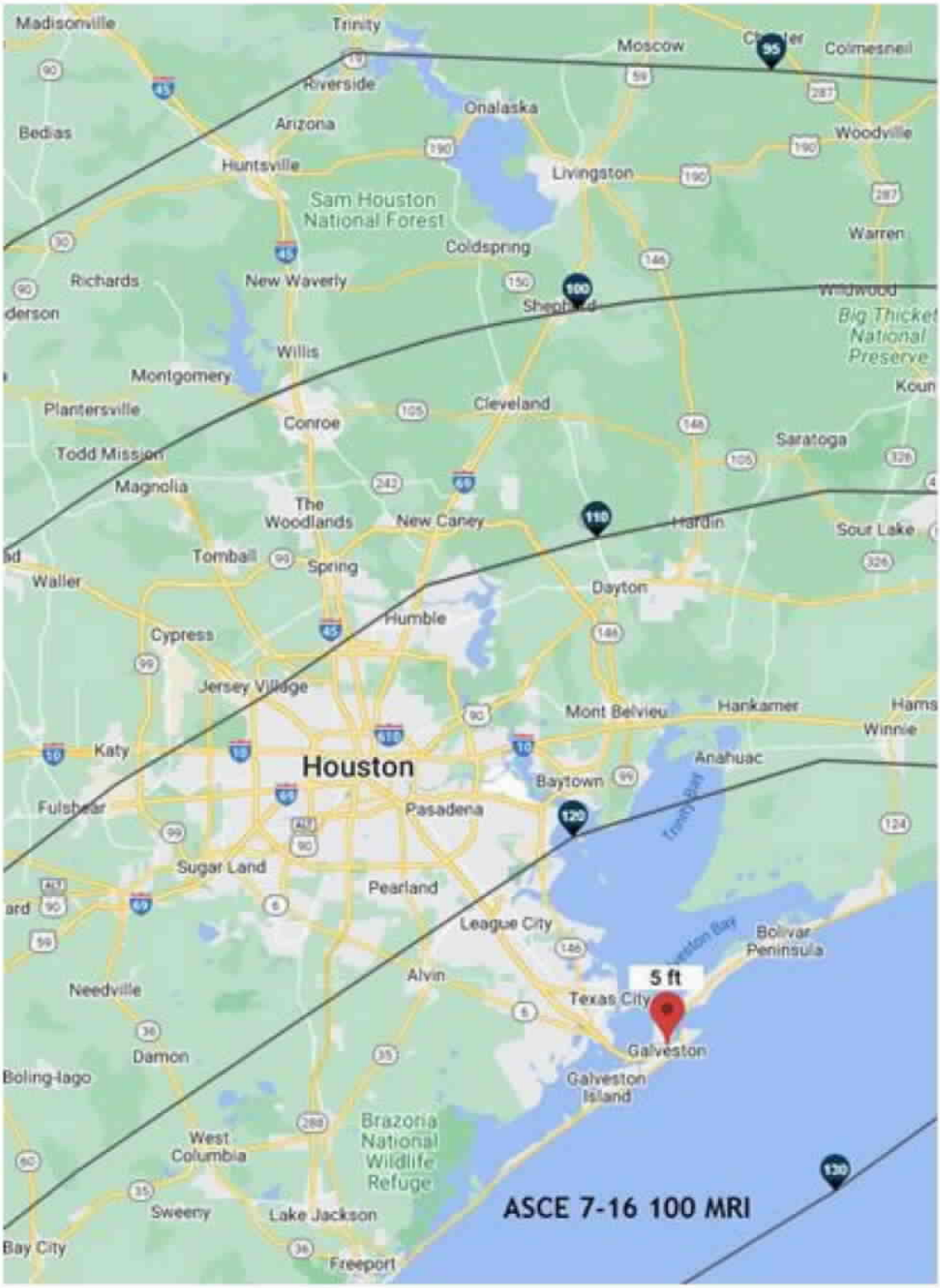
d. CenterPoint Houston did not model these structures with a variable windspeed. Transmission Structures are modeled in PLS-CADD with the highest geographically applicable NESC values for wind loading.

e. The S90 transmission structures proposed for replacement in RM-8 were not modeled with 2023 NESC wind loading criteria.

f. CenterPoint Houston does not have an exhaustive list of current transmission structure types and the success or failure of modeling with the 2023 NESC wind loading criteria. All new structures and designs are modeled to ensure they comply with the current NESC wind loading criteria discussed in response to HCC RFP 4-26 (b).

SPONSOR:
David Mercado

RESPONSIVE DOCUMENTS:
TIEC 3-04 Houston Wind Map.pdf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National Forest
Coldspring
Warren
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Magnolia
The
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New Caney
Hardin
Sout Lake
Tomball
Spring
Waller
Dayton
Humble
Cypress
Jersey Village
Mont Belvieu
Hankamer
Katy
Houston
Baytown
Anahuac
Fulshear
Pasadena
Sugar Land
Pearland
League City
Bolivar
Peninsula
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Alvin
Needville
Texas City
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TEXAS INDUSTRIAL ENERGY CONSUMERS
REQUEST NO.: TIEC-RFI03-05

QUESTION:

With reference to the Direct Testimony of Eugene L. Shlatz, Table ELS-2, please state whether the Guidehouse BCAs listed represent a weighted average of individual BCAs for projects within each measure. If yes, provide (in "live" Excel format with no redactions or locks) the individual BCAs for each individual project proposed under each measure.

ANSWER:

Guidehouse did not derive BCAs for each individual Resiliency project and therefore, the BCAs in tables in Exhibit ELS-2 do not represent a weighted average of individual BCAs. Guidehouse derived BCAs for subcomponents for 3 Resiliency Measure as follows. Please refer to the "FDR-Input" and "SR-Input" worksheets in TCUC-RFI02-01 - CNP_Model_Master_RFI TCUC 1-1_Unprotected version CONFIDENTIAL.xls for each subcomponent in each of these 3 Resiliency Measures.

Strategic Undergrounding

1. *Freeway Crossings - Overhead Line Replacement – 4.3*
2. *Strategic Underground: 3-Phase Mainlines – 3.0*
3. *Strategic Undergrounding: Highway Crossing Underground Replacement – 0.8*

Transmission Hardening

1. *Transmission System Hardening – 138kV Wood Poles – 2.9*
2. *Transmission System Hardening – 345kV Structures – 6.0*

Contamination Mitigation

1. *Contamination - Substations – 1.5*
2. *Contamination - Distribution Poles & Equipment – 2.6*

SPONSOR:
Eugene Shlatz

RESPONSIVE DOCUMENTS:
None

CERTIFICATE OF SERVICE

I hereby certify that on April 9, 2025, notice of the filing of this document was provided to all parties of record via electronic mail in accordance with the Second Order Suspending Rules, filed in Project No. 50664.

Terence Glenn Russell

Terence Russell