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**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
ENERGY HOUSTON ELECTRIC,
LLC FOR AUTHORITY TO
CHANGE RATES**

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**BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS**

REDACTED

DIRECT TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ON BEHALF OF

TEXAS COAST UTILITIES COALITION

JUNE 19, 2024

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Scott Norwood. I am President of Norwood Energy Consulting, L.L.C. My business address is P.O. Box 30197, Austin, Texas 78755-3197.

Q. WHAT IS YOUR OCCUPATION?

A. I am an energy consultant specializing in the areas of electric utility regulation, resource planning, and energy procurement.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I am an electrical engineer with over 40 years of experience in the electric utility industry. I began my career as a power plant engineer for the City of Austin's Electric Utility Department where I was responsible for electrical maintenance and design projects for the City's three gas-fired power plants. In January 1984, I joined the Staff of the Public Utility Commission of Texas ("Commission" or "PUC"), where I was responsible for addressing resource planning, fuel, and purchased power cost issues in electric rate and plant certification proceedings before the Texas PUC. Since 1986 I have provided utility regulatory consulting, resource planning, and power procurement services to public utilities, electric consumers, industrial interests, municipalities, and state government clients.

1 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

2 A. I am testifying on behalf of the Texas Coast Utilities Coalition (“TCUC”). TCUC is a
3 coalition of municipalities located in the service territory of Centerpoint Energy Houston
4 Electric, LLC (“CEHE” or “Company”).¹ TCUC was formed to address the
5 municipalities’ concerns with, and interest in, utility rates, services, and operations.

6 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUCT AND OTHER**
7 **REGULATORY COMMISSIONS?**

8 A. Yes. I have testified in more than 200 regulatory proceedings involving electric
9 restructuring, base rate, plant certification, and fuel reconciliation issues, as a consultant to
10 electric consumers and as a former member of the PUCT’s staff. I have testified in
11 numerous past CEHE regulatory proceedings, including several past Distribution Cost
12 Recovery Factor (“DCRF”) and base rate cases.² Through my work in these past cases I
13 have become familiar with issues impacting the Company’s DCRF and base rate charges.
14 I have also testified on behalf of consumer clients in regulatory proceedings involving all
15 other major investor-owned electric utilities operating in Texas. In addition to my work in
16 Texas, I have testified on electric utility ratemaking, operational, and planning issues
17 before state regulatory commissions in Alaska, Arkansas, Florida, Georgia, Illinois, Iowa,
18 Michigan, Missouri, New Jersey, Louisiana, Oklahoma, Virginia, Washington, and
19 Wisconsin.

20 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

21 A. The purpose of my testimony is to present my evaluation and recommendations regarding
22 certain issues underlying CEHE’s application for authority to increase base rates,
23 including: 1) the requested level of vegetation management operations and maintenance
24 (“O&M”) expenses; 2) the necessity and cost-effectiveness of certain capital improvement
25 projects to enhance load capability of distribution substations; and 3) CEHE’s request to

¹ TCUC includes the Cities of Baytown, Clute, Freeport, League City, Pasadena, Pearland, Shoreacres, West Columbia, and Wharton.

² See Attachment SN-1.

1 recover land acquisition costs for a planned substation that is not expected to be in service
2 until 2025.

3 **Q. HAVE YOU PREPARED ANY EXHIBITS TO SUPPORT YOUR TESTIMONY?**

4 A. Yes. I have prepared 5 Attachments, which are included with my testimony.

5 **II. SUMMARY OF TESTIMONY**

6 **Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.**

7 A. My conclusions and recommendations are as follows:

8 1) Distribution Vegetation Management Expense - CEHE requests \$39.8
9 million for vegetation management O&M expense in its new rates, which is 43.7% higher
10 than the average annual expense for vegetation management over the previous four years
11 (2019-2022).³ The Company attributes the Test Year increase to rising contract labor costs,
12 weather unusually conducive to vegetation growth and increases in distribution overhead
13 line miles. However, the Company has not provided analysis or data supporting these
14 claims and available information suggests that the Test Year increase in vegetation
15 management expense may be influenced by other factors and therefore is not necessarily
16 representative of a normal and recurring level of expense. Accordingly, I recommend that
17 CEHE's request for distribution vegetation management expenses be adjusted to \$33.0
18 million which is approximately 110% of the level incurred in 2022. Using 110% of the
19 expense level incurred in 2022 reflects a more reasonable and normal level of expense for
20 ratemaking. My recommendation, which represents a 19.1% increase to the average level
21 of CEHE's vegetation O&M expense over the 2019-2022 period, reduces the Company's
22 requested Test Year vegetation expense by \$6.83 million.

23 2) Distribution Substation Capital Expenditures - CEHE is requesting approval
24 of \$59.5 million of capital investment associated with 6 distribution substation projects that
25 are categorized as "Load Growth" projects.⁴ The Company's Project Evaluation Forms

³ See Attachment SN-2, CEHE's response to TCUC 2-22 and Table 1 of my testimony.

⁴ See Attachment SN-3 (Confidential), CEHE's response to TCUC 2-17.

1 (“PEF”) for these projects indicate that the investments were evaluated by CEHE to be
2 discretionary and to have very low value-to-cost (“V/C”) ratios, which raises serious
3 questions regarding the need for and cost-effectiveness of the projects.⁵ Because the cost
4 of each of these 6 capital projects are at least 33 times the evaluated value of the projects
5 to CEHE customers and therefore fail to meet the Commission’s traditional “reasonable
6 and necessary” standard that has been applied for approval of major investments, I
7 recommend that the Commission withhold approval of the \$59.5 million requested by the
8 Company for these projects at this time.

9 3) Land Acquisition Costs for Future Substation - CEHE is requesting
10 approval to include in rate base the \$75.43 million it paid to acquire land for a new
11 substation to serve the Texas Medical Center, which is not expected to be placed in service
12 until 2025.⁶ CEHE requested that these land purchase costs be recovered through its DCRF
13 in the Company’s last two DCRF proceedings, PUC Docket Nos. 54825 and 55993;
14 however, both cases were resolved through Stipulation and Settlement Agreements that
15 included “No Precedent” provisions that left the final regulatory treatment of such costs
16 subject to future litigation and determination by the Commission. It would be improper to
17 allow CEHE to recover through base rates land acquisition costs that are not used and
18 useful for providing electric service until the planned Texas Medical Center substation is
19 placed in service in 2025, and until the Commission has reviewed and determined that the
20 substation is reasonable, necessary, and used and useful to customers. For these reasons, I
21 recommend that the Commission disallow CEHE’s request to include these land
22 acquisition costs in rate base at this time. My recommendation reduces CEHE’s requested
23 rate base by \$75.43 million.

⁵ *Ibid.*

⁶ See the Direct Testimony of CEHE witness Brad Tutunjian’s in PUC Docket No. 58425, Exhibit BAT-3, page 13 of 15, Project HLP/00/1316.

1 **III. VEGETATION MANAGEMENT EXPENSE**

2 **Q. WHAT IS CEHE'S REQUEST FOR DISTRIBUTION VEGETATION**
3 **MANAGEMENT EXPENSE?**

4 A. CEHE is requesting approval to include the test year level of distribution vegetation
5 management expense of \$39.8 million in its new base rates.⁷

6 **Q. HOW DOES CEHE'S VEGETATION MANAGEMENT EXPENSE REQUEST**
7 **COMPARE TO THE COMPANY'S VEGETATION MANAGEMENT**
8 **EXPENDITURES SINCE THE COMPANY'S LAST BASE RATE CASE?**

9 A. As shown in Table 1 below, CEHE's requested distribution vegetation management
10 expense is \$12.1 million (43.7%) higher than the Company's \$27.7 million per year
11 average vegetation management expense during the previous four years (2019-2022).

12 **Table 1**
13 **CEHE Distribution Vegetation Management Expense⁸**
14

	<u>VegMgt Expense</u>	<u>% Change</u>
2019	\$27,379,592	
2020	\$26,109,147	-4.6%
2021	\$27,423,869	5.0%
2022	<u>\$29,954,796</u>	9.2%
2019-22 Avg	\$27,716,851	
2023	\$39,831,198	43.7%

15
16 **Q. DOES CEHE'S DIRECT TESTIMONY ADDRESS THE EXTRAORDINARY**
17 **INCREASE IN TEST YEAR DISTRIBUTION VEGETATION MANAGEMENT**
18 **EXPENSE?**

19 A. Yes, to an extent. CEHE witness Randal Pryor testifies that increased contract labor costs,
20 weather conditions and the increase in overhead line miles were the primary factors that
21 contributed to the increase in vegetation management expense.⁹

⁷ See Attachment SN-2, CEHE's response to TCUC 2-22.

⁸ *Ibid.*

⁹ See the Direct Testimony of CEHE witness Randal Pryor, pages 37-38.

1 **Q. DID MR. PRYOR PROVIDE ANY ANALYSIS OR OTHER DOCUMENTATION**
2 **TO SUPPORT HIS EXPLANATIONS FOR THE INCREASE IN TEST YEAR**
3 **VEGETATION MANAGEMENT EXPENSE?**

4 A. No. For example, Mr. Pryor claims a primary factor contributing to the increase in Test
5 Year vegetation management costs is the increase in CEHE's overhead line miles since the
6 Company's last base rate case, but he provides no information to document the level of line
7 miles added.

8 **Q. HAS THERE BEEN AN EXTRAORDINARY INCREASE IN CEHE'S**
9 **DISTRIBUTION OVERHEAD LINE MILES SINCE THE COMPANY'S LAST**
10 **RATE CASE?**

11 A. No. As shown in Table 2 below, the total increase in CEHE's overhead line miles over the
12 last five years (2019 to 2023) was only 3.3%, with the annual increase being approximately
13 0.8% per year during this period. This relatively modest increase in distribution overhead
14 line miles does not appear to explain the 43.7% increase in CEHE's Test Year vegetation
15 management expense.

16 **Table 2**
17 **CEHE Distribution System Overhead Line-Miles¹⁰**
18

	<u>Line-Miles</u>	<u>Change, % /Yr</u>
2019	22,672	
2020	22,856	0.8%
2021	23,050	0.8%
2022	23,242	0.8%
2023	23,431	0.8%
2019-23 Change:	3.3%	

19
20 **Q. DOES MR. PRYOR'S TESTIMONY PROVIDE SUPPORT FOR HIS CLAIMS**
21 **THAT WEATHER WHICH WAS UNUSUALLY CONDUCTIVE TO VEGETATION**
22 **GROWTH EXPLAINS THE INCREASE IN TEST YEAR VEGETATION**
23 **MANAGEMENT EXPENSES?**

24 A. No. It is not clear to me how CEHE would be able to correlate or measure the extent to
25 which weather impacted the level of vegetation growth experienced on CEHE's system in
26 order to demonstrate that weather was a major factor contributing to the extraordinary

¹⁰ Source is CEHE's response to TCUC 2-30.

1 increase in Test Year vegetation management expense. Moreover, even if such an analysis
2 was possible, it would be virtually impossible to predict the likelihood of that historical
3 weather impact continuing into the future as is required to assess whether the level of Test
4 Year expense is normal and recurring in the future.

5 **Q. IS MR. PRYOR'S CLAIM THAT RISING CONTRACT LABOR COSTS**
6 **CONTRIBUTED TO THE INCREASE IN CEHE'S TEST YEAR VEGETATION**
7 **MANAGEMENT EXPENSE PLAUSIBLE?**

8 A. Yes. I would expect that vegetation management contract labor costs have risen over the
9 last five years, and this may explain a portion of the increase in CEHE's Test Year
10 vegetation management expense. However, if contract labor cost increases were a major
11 contributing factor to the 43.7% increase in CEHE's Test Year vegetation management
12 expenses, this impact would have been relatively easy for Mr. Pryor to quantify and present
13 in his direct testimony, which he did not do.

14 **Q. HAS THE LEVEL OF CEHE'S VEGETATION MANAGEMENT SPENDING HAD**
15 **A SIGNIFICANT IMPACT ON THE RELIABILITY OF THE COMPANY'S**
16 **DISTRIBUTION SERVICE OVER THE LAST FIVE YEARS?**

17 A. No. As shown in Table 3 below, CEHE's vegetation-related outage time averaged 18.8
18 minutes per year over the 2019-2022 period during which CEHE's distribution vegetation
19 management spending averaged approximately \$27.7 million per year. It is important to
20 note that this level of vegetation-related outage time represents only 0.0036% of total
21 annual time, which equates to an extremely high distribution service reliability level of
22 99.996% for vegetation outages only.

Table 3
CEHE's Vegetation Management Spending and
Vegetation Related Outage Time¹¹

	<u>Veg Mgt Exp</u>	<u>Veg Outage Minutes</u>	<u>% of Annual Time</u>
2019	\$27,379,592	19.8	0.0038%
2020	\$26,109,147	16.2	0.0031%
2021	\$27,423,869	18.9	0.0036%
<u>2022</u>	<u>\$29,954,796</u>	<u>20.4</u>	<u>0.0039%</u>
Average	\$27,716,851	18.8	0.0036%

Q. WHAT IS YOUR RECOMMENDATION REGARDING CEHE'S REQUESTED TEST YEAR DISTRIBUTION VEGETATION MANAGEMENT EXPENSE?

A. I recommend that CEHE's \$39.8 million request for distribution vegetation management expense be adjusted to a level that is more in line with expenditures over the previous four years. In recognition of the fact that rising contract labor costs may have contributed to the increased level of vegetation expense incurred in 2022 (\$29.95 million) and 2023 (\$39.8 million), I recommend an allowed level of expense of \$33.0 million, which is approximately 110% of the 2022 expense. My recommended adjustment reduces CEHE's requested distribution vegetation management expense by \$6.83 million. My recommended vegetation management expense of \$33.0 million represents a \$5.3 million (19.1%) increase over CEHE's average annual distribution vegetation management expense spending for the previous four years.

IV. DISTRIBUTION CAPITAL EXPENDITURES

Q. HAVE YOU REVIEWED CEHE'S SUPPORT FOR ALL DISTRIBUTION CAPITAL PROJECTS FOR WHICH THE COMPANY SEEKS FINAL APPROVAL IN THIS CASE?

A. No. Considering the large number of capital projects that are being presented for final approval in this case, I requested supporting information from CEHE only for distribution

¹¹ Sources are CEHE's response to TCUC 2-22 and CEHE's Annual Service Quality Reports.

capital projects having a total cost of more than \$5 million for which the Company is seeking final approval from the Commission in this case.¹²

Q. DO YOU HAVE ANY CONCERNS REGARDING CEHE'S DISTRIBUTION CAPITAL EXPENDITURES?

A. Yes. Based on my review of CEHE's Project Evaluation Forms¹³ ("PEF"), which provide the Company's evaluations supporting the prudence of capital projects, I have concerns regarding the reasonableness and necessity of 6 distribution substation projects.¹⁴

Q. WHAT SPECIFIC INFORMATION FROM CEHE'S PEF DID YOU CONSIDER IN EVALUATING THE REASONABLENESS OR NECESSITY OF THE PROJECTS?

A. I evaluated each project in terms of whether CEHE's PEF indicated the investment was discretionary, and the extent to which the estimated capital cost of the project was evaluated by CEHE to exceed the estimated total value of reliability, design criteria, supplemental benefits and "load at risk" provided by the Project as listed on the PEF.¹⁵

Q. HOW DID YOU ASSESS PROJECTS OF PARTICULAR CONCERN BASED ON THEIR PEF EVALUATION RESULTS?

A. I evaluated projects to be of particular concern to the extent they were designated to be "discretionary" and had value-to-cost ("V/C") ratios of 0.03 or lower, which means that the estimated capital cost of the project was at least 33 times higher than the evaluated value of the projects to CEHE's customers. The 6 projects that met these two criteria and their PEF results are summarized in Table 4 below.

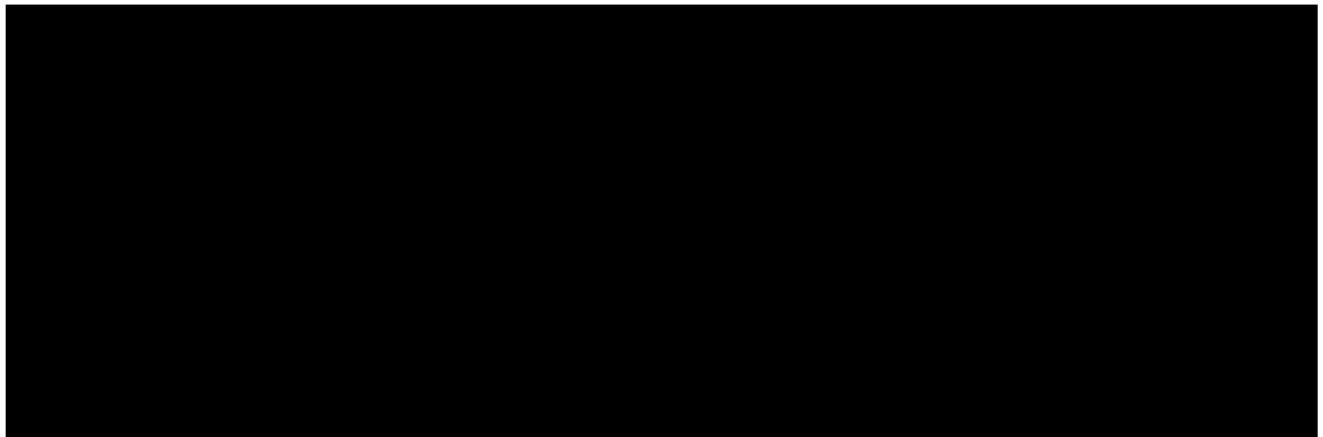
¹² See Attachment SN-3 (Confidential).

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ See Attachment SN-4 for CEHE's definitions of these PEF valuation criteria.

Table 4
Substation Capital Project PEF Valuation Results
*****BEGIN CONFIDENTIAL¹⁶**

A large black rectangular box redacting the content of Table 4.

END CONFIDENTIAL***

Q. ARE THE “VALUE” AMOUNTS INCLUDED IN CEHE’S V/C RATIOS ESTIMATED MONETARY BENEFITS OF PROJECTS?

A. No. The values of projects listed in Table 4 above are not estimated monetary benefits of the projects, but rather are CEHE’s qualitative assessment of the “value” of projects.¹⁷ As such, the V/C ratios reflected in my Table 4 are not cost/benefit ratios, but instead represent the estimated costs of projects to customers divided by CEHE’s estimated qualitative values of the projects that may have little or no monetary benefit to customers.

Q. DOES CEHE’S DIRECT TESTIMONY SPECIFICALLY ADDRESS THE REASONABLENESS, NECESSITY OR PRUDENCE OF THE PROJECTS LISTED IN TABLE 4?

A. No. CEHE indicates it has provided support for capital projects in its direct testimony¹⁸; however, the testimony cited by the Company provides only high level discussion of planning, cost control and categorization distribution investments but does not specifically address the prudence of any of the 6 projects listed in Table 4. These projects are among the largest distribution capital additions that CEHE is seeking approval to include in rates for the first time in this case.

¹⁶ See Attachment SN-3 (Confidential) for PEFs that are the source of the data presented in Table 4.

¹⁷ See Attachment SN-4 for CEHE’s definitions of these PEF valuation criteria.

¹⁸ See Attachment SN-5, CEHE’s response to TCUC 2-33.

1 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE PROJECTS**
2 **PRESENTED IN TABLE 4?**

3 A. I recommend that the Commission disallow CEHE's request for approval and cost recovery
4 for the 6 projects listed in Table 4 because the projects were evaluated by CEHE to be both
5 discretionary, to provide no reliability benefit and to have estimated capital costs that are
6 at least 33 times the estimated value of the projects to customers. My recommendation
7 reduces the total capital investment requested by CEHE for these projects by approximately
8 \$59.5 million based on the Company's project cost estimates as presented in my Table 4
9 above.

10 **V. LAND ACQUISITION COSTS FOR FUTURE SUBSTATION**

11 **Q. WHAT IS CEHE'S REQUEST REGARDING LAND ACQUISITION COSTS?**

12 A. CEHE is requesting approval to include in rate base the \$75.43 million it paid to acquire
13 land for a new substation to serve the Texas Medical Center, which is not expected to be
14 placed in service *until 2025*.¹⁹

15 **Q. HAS CEHE PREVIOUSLY SOUGHT APPROVAL TO INCLUDE THESE**
16 **SUBSTATION LAND ACQUISITION COSTS IN THE COMPANY'S PAST DCRF**
17 **CHARGES?**

18 A. Yes. CEHE requested approval to recover these land acquisition through its DCRF in the
19 Company's last two DCRF proceedings, PUC Docket Nos. 54825 and 55993; however,
20 both cases were resolved through Stipulation and Settlement Agreements that did not
21 explicitly provide for recovery of such costs and that included "No Precedent" provisions
22 that left final regulatory treatment of such costs subject to future litigation and
23 determination by the Commission.

¹⁹ See the Direct Testimony of CEHE witness Brad Tutunjian's in PUC Docket No. 58425, Exhibit BAT-3, page 13 of 15, Project HLP/00/1316.

1 **Q. IS THE ACQUIRED LAND AT ISSUE USED AND USEFUL FOR PROVIDING**
2 **ELECTRIC SERVICE BEFORE THE NEW SUBSTATION IS COMPLETED AND**
3 **PLACED IN SERVICE?**

4 A. No. Moreover, it would be improper to allow CEHE to recover through base rates the costs
5 of land purchased for a planned Texas Medical Center substation that will not be placed in
6 service until 2025, until the Commission has reviewed and determined that the substation
7 is reasonable, necessary, and used and useful to customers.

8 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE LAND**
9 **ACQUISITION COSTS FOR CEHE'S PLANNED NEW TEXAS MEDICAL**
10 **CENTER SUBSTATION?**

11 A. I recommend that CEHE's request to include the land acquisition costs for the planned
12 Texas Medical Center Substation in rate base be disallowed at this time because the land
13 will not be used and useful for providing electric service until the substation is placed in
14 service in 2025. My recommendation reduces CEHE's requested rate base by \$75.43
15 million.

16 **VI. RATE CASE EXPENSES**

17 **Q. WHAT IS THE PURPOSE OF ADDRESSING RATE CASE EXPENSES IN THIS**
18 **PROCEEDING?**

19 A. The purpose of addressing rate case expenses in this proceeding is to comply with 16 TAC
20 §25.245, *Rate Case Expenses*.

21 **Q. WHAT AMOUNT OF TCUC'S REQUESTED RATE CASES EXPENSES ARE**
22 **ATTRIBUTABLE TO NORWOOD ENERGY CONSULTING ("NEC")?**

23 A. NEC's charges to TCUC for work performed on this case through May 31, 2024 totaled
24 \$17,280.00. This expense was incurred for NEC's work including: 1) review of CEHE's
25 application, direct testimony, schedules and workpapers, 2) preparation and review of
26 discovery, 3) analysis of issues, 4) preparation of NEC's direct testimony, and 4) conferring
27 with TCUC's counsel and other witnesses.²⁰

²⁰ See Attachment SN-6 for a summary of my charges and copies of NEC's invoices for this case through July of 2023.

1 **Q. WHAT IS YOUR ESTIMATE OF REMAINING CHARGES BY NEC FOR**
2 **COMPLETION OF THIS CASE?**

3 A. I estimate that NEC will incur additional charges of \$21,600.00 to complete the work
4 remaining in this case, including: 1) finalize direct testimony, 2) review intervenor
5 testimony, 3) prepare responses to discovery from CEHE regarding my direct testimony,
6 4) review and prepare discovery on CEHE's rebuttal testimony, 5) analyze CEHE's
7 discovery responses, 6) assist with development of cross examination questions on CEHE
8 witnesses, 7) prepare and presenting oral testimony at the hearing, and 8) assist with
9 TCUC's briefs and any appeals.

10 **Q. WHAT CRITERIA MUST BE MET UNDER THE COMMISSION'S RATE CASE**
11 **EXPENSE RULE (16 TAC § 25.245)?**

12 A. The following criteria are set out in the rule:

- 13 1. Whether the fees paid to, tasks performed by, or time spent on a task by an attorney
14 or other professional were extreme or excessive,
- 15 2. Whether the expenses incurred for lodging, meals and beverages, transportation, or
16 other services or materials were extreme or excessive,
- 17 3. Whether there was duplication of services or testimony,
- 18 4. Whether the utility's or municipality's proposal on an issue in the rate case had no
19 reasonable basis in law, policy, or fact and was not warranted by any reasonable
20 argument for the extension, modification, or reversal of commission precedent,
- 21 5. Whether rate-case expenses as a whole were disproportionate, excessive, or
22 unwarranted in relation to the nature and scope of the rate case addressed by the
23 evidence pursuant to subsection (b)(5) of this section, or
- 24 6. Whether the utility or municipality failed to comply with the requirements for
25 providing sufficient information pursuant to subsection (b) of this section.

26 **Q. IS YOUR BILLING RATE AND THE TIME SPENT ON THE TASKS IN THIS**
27 **CASE REASONABLE (CRITERION 1)?**

28 A. Yes, my hourly rate of \$240 is reasonable considering my 37 years of years of electric
29 utility regulatory consulting experience and is my normal billing rate for services provided

1 to similar clients. My hourly rate is in the range of billing rates charged by other
2 consultants with similar experience and is reasonable for a consultant providing these types
3 of services before utility regulatory agencies in Texas.

4 **Q. DO NEC'S CHARGES INCLUDE ANY TYPES OF EXPENSES THAT THE**
5 **COMMISSION HAS EXCLUDED IN THE PAST (CRITERION 2)?**

6 A. No. NEC charges on this case do not include charges for travel, lodging or any type of
7 expense other than professional fees.

8 **Q. IN LIGHT OF THE THIRD CRITERION, WAS THERE ANY DUPLICATION OF**
9 **SERVICES IN PREPARING YOUR TESTIMONY?**

10 A. No; there has been no duplication of services. No other TCUC witness addresses the issues
11 presented in my testimony.

12 **Q. DO THE ISSUES RAISED BY YOUR TESTIMONY HAVE A REASONABLE**
13 **BASIS IN LAW, POLICY, OR FACT (CRITERION 4)?**

14 A. Yes. My testimony focuses directly on whether various costs which TCUC requests to
15 recover through base rates are reasonable, and my proposed adjustments are consistent with
16 the requirements of Commission rules and past precedent.

17 **Q. WHAT IS YOUR CONCLUSION REGARDING NEC'S ACTUAL CHARGES**
18 **(CRITERION 5)?**

19 A. In my opinion, NEC's actual and estimated fees for this case are reasonable and necessary
20 and are not disproportionate, excessive, or unwarranted in relation to the nature and scope
21 of the filing. Furthermore, to the best of my knowledge, I have fully complied with the
22 information requirements set out in Criterion 6 of the Commission's Rate Case Expense
23 Rule.

24 **Q. DOES THAT CONCLUDE YOUR TESTIMONY?**

25 a. Yes.

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Attachment SN-1: Background and Experience of Scott Norwood

DON SCOTT NORWOOD
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SUMMARY

Scott Norwood is an energy consultant with over 40 years of utility industry experience in the areas of regulatory consulting, resource planning, power plant operations and energy procurement. His clients include government agencies, publicly-owned utilities, public service commissions, municipalities and various electric consumer interests. Over the last 15 years Mr. Norwood has presented expert testimony on electric utility ratemaking, resource planning, and electric utility restructuring issues in over 200 regulatory proceedings in Arkansas, Georgia, Iowa, Illinois, Michigan, Missouri, New Jersey, Oklahoma, South Dakota, Texas, Virginia, Washington and Wisconsin.

Prior to founding Norwood Energy Consulting in January of 2004, Mr. Norwood was employed for 18 years by GDS Associates, Inc., a Marietta, Georgia based energy consulting firm. Mr. Norwood was a Principal of GDS and directed the firm's Deregulated Services Department which provided a range of consulting services including merchant plant due diligence studies, deregulated market price forecasts, power supply planning and procurement projects, electric restructuring policy analyses, and studies of power plant dispatch and production costs.

Before joining GDS, Mr. Norwood was employed by the Public Utility Commission of Texas as Manager of Power Plant Engineering from 1984 through 1986. He began his career in 1980 as Staff Electrical Engineer with the City of Austin's Electric Utility Department where he was in charge of electrical maintenance and design projects at three gas-fired power plants.

Mr. Norwood is a graduate of the college of electrical engineering of the University of Texas.

EXPERIENCE

The following summaries are representative of the range of projects conducted by Mr. Norwood over his 30-year consulting career.

Regulatory Consulting

Oklahoma Industrial Energy Consumers - Assisted client with technical and economic analysis of proposed EPA regulations and compliance plans involving control of air emissions and potential conversion of coal-to-gas conversion options.

Cities Served by Southwestern Electric Power Company - Analyzed and presented testimony regarding the prudence of a \$1.7 billion coal-fired power plant and related settlement agreements with Sierra Club.

New York Public Service Commission - Conducted inter-company statistical benchmarking analysis of Consolidated Edison Company to provide the New York Public Service Commission with guidance in determining areas that should be reviewed in detailed management audit of the company.

Oklahoma Industrial Energy Consumers - Analyzed and presented testimony on affiliate energy trading transactions by AEP in ERCOT.

Virginia Attorney General - Analyzed and presented testimony regarding distribution tap line undergrounding program proposed by Dominion Virginia Power Company.

Cities Served by Southwestern Electric Power Company - Analyzed and presented testimony regarding the prudence of the utility's decision to retire the Welsh Unit 2 coal-fired generating unit in conjunction with a litigation settlement agreement with Sierra Club.

Georgia Public Service Commission - Presented testimony before the Georgia Public Service Commission in Docket 3840-U, providing recommendations on nuclear O&M levels for Hatch and Vogtle and recommending that a nuclear performance standard be implemented in the State of Georgia.

Oklahoma Industrial Energy Consumers - Analyzed and presented testimony addressing power production and coal plant dispatch issues in fuel prudence cases involving Oklahoma Gas and Electric Company.

Georgia Public Service Commission - Analyzed and provided recommendations regarding the reasonableness of nuclear O&M costs, fossil O&M costs and coal inventory levels reported in GPC's 1990 Surveillance Filing.

City of Houston - Analyzed and presented comments on various legislative proposals impacting retail electric and gas utility operations and rates in Texas.

New York Public Service Commission - Conducted inter-company statistical benchmarking analysis of Rochester Gas & Electric Company to provide the New York Public Service Commission with guidance in determining areas which should be reviewed in detailed management audit of the company.

Virginia Attorney General - Analyzed and presented testimony regarding an accelerated vegetation management program and rider proposed by Appalachian Power Company.

Oklahoma Attorney General – Analyzed and presented testimony regarding fuel and purchased power, depreciation and other expense items in Oklahoma Gas & Electric Company's 2001 rate case before the Oklahoma Corporation Commission.

City of Houston - Analyzed and presented testimony regarding fossil plant O&M expense levels in Houston Lighting & Power Company's rate case before the Public Utility Commission of Texas.

City of El Paso - Analyzed and presented testimony regarding regulatory and technical issues related to the Central & Southwest/El Paso Electric Company merger and rate proceedings before the PUCT, including analysis of merger synergy studies, fossil O&M and purchased power margins.

Residential Ratepayer Consortium - Analyzed Fermi 2 replacement power and operating performance issues in fuel reconciliation proceedings for Detroit Edison Company before the Michigan Public Service Commission.

Residential Ratepayer Consortium - Analyzed and prepared testimony addressing coal plant outage rate projections in the Consumer's Power Company fuel proceeding before the Michigan Public Service Commission.

City of El Paso - Analyzed and developed testimony regarding Palo Verde operations and maintenance expenses in El Paso Electric Company's 1991 rate case before the Public Utility Commission of Texas.

City of Houston - Analyzed and developed testimony regarding the operations and maintenance expenses and performance standards for the South Texas Nuclear Project, and operations and maintenance expenses for the Limestone and Parish coal-fired power plants in HL&P's 1991 rate case before the PUCT.

City of El Paso - Analyzed and developed testimony regarding Palo Verde operations and maintenance expenses in El Paso Electric Company's 1990 rate case before the Public Utility Commission of Texas. Recommendations were adopted.

Energy Planning and Procurement Services

Virginia Attorney General – Review and provide comments or testimony regarding annual integrated resource plan filings made by Dominion Virginia Power and Appalachian Power Company.

Dell Computer Corporation – Negotiated retail power supply agreement for Dell's Round Rock, Texas facilities producing annual savings in excess of \$2 million.

Texas Association of School Boards Electric Aggregation Program – Serve as TASB's

consultant in the development, marketing and administration of a retail electric aggregation program consisting of 2,500 Texas schools with a total load of over 300 MW. Program produced annual savings of more than \$30 million in its first year.

Oklahoma Industrial Energy Consumers - Analyzed and drafted comments addressing integrated resource plan filings by Public Service Company of Oklahoma and Oklahoma Gas and Electric Company.

S.C. Johnson - Analyzed and presented testimony addressing Wisconsin Electric Power Company's \$4.1 billion CPCN application to construct three coal-fired generating units in southeast Wisconsin.

Oklahoma Industrial Energy Consumers - Analyzed wind energy project ownership proposals by Oklahoma Gas and Electric Company and presented testimony addressing project economics and operational impacts.

City of Chicago, Illinois Attorney General, Illinois Citizens' Utility Board - Analyzed Commonwealth Edison's proposed divestiture of the Kincaid and State Line power plants to SEI and Dominion Resources.

Georgia Public Service Commission - Analyzed and presented testimony on Georgia Power Company's integrated resource plan in a certification proceeding for an eight unit, 640 MW combustion turbine facility.

South Dakota Public Service Commission - Evaluated integrated resource plan and power plant certification filing of Black Hills Power & Light Company.

Shell Leasing Co. - Evaluated market value of 540 MW western coal-fired power plant.

Community Energy Electric Aggregation Program – Served as Community Energy's consultant in the development, marketing and start-up of a retail electric aggregation program consisting of major charitable organizations and their donors in Texas.

Austin Energy – Conducted competitive solicitation for peaking capacity. Developed request for proposal, administered solicitation and evaluated bids.

Austin Energy - Provided technical assistance in the evaluation of the economic viability of the

City of Austin's ownership interest in the South Texas Project.

Austin Energy - Assisted with regional production cost modeling analysis to assess production cost savings associated with various public power merger and power pool alternatives.

Sam Rayburn G&T Electric Cooperative - Conducted competitive solicitation for peaking capacity. Developed request for proposal, administered solicitation and evaluated bids.

Rio Grande Electric Cooperative, Inc. - Directed preparation of power supply solicitation and conducted economic and technical analysis of offers.

Virginia Attorney General – Review and provide comments or testimony regarding annual demand-side management program programs and rider proposals made by Dominion Virginia Power and Appalachian Power Company.

Austin Energy – Conducted modeling to assess potential costs and benefits of a municipal power pool in Texas.

Electric Restructuring Analyses

Electric Power Research Institute - Evaluated regional resource planning and power market dispatch impacts on rail transportation and coal supply procurement strategies and costs.

Arkansas House of Representatives – Critiqued proposed electric restructuring legislation and identified suggested amendments to provide increased protections for small consumers.

Virginia Legislative Committee on Electric Utility Restructuring – Presented report on status of stranded cost recovery for Virginia’s electric utilities.

Georgia Public Service Commission – Developed models and a modeling process for preparing initial estimates of stranded costs for major electric utilities serving the state of Georgia.

City of Houston – Evaluated and recommended adjustments to Reliant Energy’s stranded cost proposal before the Public Utility Commission of Texas.

Oklahoma Attorney General – Evaluated and advised the Attorney General on technical, economic and regulatory policy issues arising from various electric restructuring proposals considered by the Oklahoma Electric Restructuring Advisory Committee.

State of Hawaii Department of Business, Economics and Tourism – Evaluated electric restructuring proposals and developed models to assess the potential savings from deregulation of the Oahu power market.

Virginia Attorney General - Served as the Attorney General’s consultant and expert witness in the evaluation of electric restructuring legislation, restructuring rulemakings and utility proposals addressing retail pilot programs, stranded costs, rate unbundling, functional

separation plans, and competitive metering.

Western Public Power Producers, Inc. - Evaluated operational, cost and regional competitive impacts of the proposed merger of Southwestern Public Service Company and Public Service Company of Colorado.

Iowa Department of Justice, Consumer Advocate Division - Analyzed stranded investment and fuel recover issues resulting from a market-based pricing proposal submitted by MidAmerican Energy Company.

Cullen Weston Pines & Bach/Citizens' Utility Board - Evaluated estimated costs and benefits of the proposed merger of Wisconsin Energy Corporation and Northern States Power Company (Primergy).

City of El Paso - Evaluated merger synergies and plant valuation issues related to the proposed acquisition and merger of El Paso Electric Company and Central & Southwest Company.

Rio Grande Electric Cooperative, Inc. - Analyzed stranded generation investment issues for Central Power & Light Company.

Power Plant Management

City of Austin Electric Utility Department - Analyzed the 1994 Operating Budget for the South Texas Nuclear Project (STNP) and assisted in the development of long-term performance and expense projections and divestiture strategies for Austin's ownership interest in the STNP.

City of Austin Electric Utility Department - Analyzed and provided recommendations regarding the 1991 capital and O&M budgets for the South Texas Nuclear Project.

Sam Rayburn G&T Electric Cooperative - Developed and conducted operational monitoring program relative to minority owner's interest in Nelson 6 Coal Station operated by Gulf States Utilities.

KAMO Electric Cooperative, City of Brownsville and Oklahoma Municipal Power Agency - Directed an operational audit of the Oklaunion coal-fired power plant.

Sam Rayburn G&T Electric Cooperative - Conducted a management/technical assessment of the Big Cajun II coal-fired power plant in conjunction with ownership feasibility studies for the project.

Kamo Electric Power Cooperative - Developed and conducted operational monitoring program for client's minority interest in GRDA Unit 2 Coal Fired Station.

Northeast Texas Electric Cooperative - Developed and conducted operational monitoring program concerning NTEC's interest in Pirkey Coal Station operated by Southwestern Electric Power Company and Dolet Hills Station operated by Central Louisiana Electric Company.

Corn Belt Electric Cooperative/Central Iowa Power Cooperative - Perform operational monitoring and budget analysis on behalf of co-owners of the Duane Arnold Energy Center.

PRESENTATIONS

Quantifying Impacts of Electric Restructuring: Dynamic Analysis of Power Markets, 1997 NARUC Winter Meetings, Committee on Finance and Technology.

Quantifying Costs and Benefits of Electric Utility Deregulation: Dynamic Analysis of Regional Power Markets, International Association for Energy Economics, 1996 Annual North American Conference.

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
ENERGY HOUSTON ELECTRIC,
LLC FOR AUTHORITY TO
CHANGE RATES**

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**BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS**

**DIRECT TESTIMONY AND ATTACHMENTS
OF SCOTT NORWOOD**

Attachment SN-2: CEHE's Response to TCUC 2-2

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PUC DOCKET NO. 56211
SOAH DOCKET NO. 473-24-13232
TEXAS COAST UTILITIES COALITION
REQUEST NO.: TCUC-RFI02-22

QUESTION:

Please provide the amount expended on CEHE's vegetation management programs for each of the last five years, the Test Year and as requested in this case, by FERC account.

ANSWER:

Attached please find the requested historical data for vegetation management including test year.

Note: Figure 13 in Mr. Pryor's direct testimony includes \$1.2 million of internal administrative costs.

SPONSOR:
Randal Pryor

RESPONSIVE DOCUMENTS:
TCUC-RFI02-22 - 2019-2023 VM Actuals with FERC Accounts

Attachment SN-2
Page 2 of 2

				2019 Actuals	2020 Actuals	2021 Actuals	2022 Actuals	2023 Actuals
	Category	FERC Account	FERC Desc	2019 Actuals	2020 Actuals	2021 Actuals	2022 Actuals	2023 Actuals
S/A01610/EE/ABS9BK	Tree Removal	5930	Maintenance of overhead lines/Distribution	1,745,837	313,732	134,926	34,767	122,925
S/A01610/EE/ABS9CTE	Dist. Circuit Trimming East Region	5930	Maintenance of overhead lines/Distribution	10,049,159	8,949,028	10,341,825	8,145,444	26,023,683
S/A01610/EE/ABS9CTW	Dist. Circuit Trimming West Region	5930	Maintenance of overhead lines/Distribution	14,242,693	15,304,894	15,837,048	19,978,919	15,177,189
S/A01610/EE/ABS9HZ	Hazard Removals	5930	Maintenance of overhead lines/Distribution	127,245	42,409	113,784	38,391	314,672
S/101610/EE/ABS9	Proactive Line Clearance All Regions			26,164,934	25,210,054	26,879,583	28,195,542	35,582,870
S/A01610/EE/ABS9PHZ	Proactive Removals	5930	Maintenance of overhead lines/Distribution	319,825	60,575	164,182	911,542	3,491,582
S/A01610/EE/ABS9CSO	CSO Reactive	5930	Maintenance of overhead lines/Distribution	232,537	185,858	263,171	235,328	154,948
S/A01610/EE/ABS9DMR	DMR Reactive	5930	Maintenance of overhead lines/Distribution	1,885	15,501	4,526	-	13,757
S/101610/EE/ABS9DMR	Wetland Tree Program			563,837	262,334	431,879	1,146,869	3,660,267
S/101610/EE/ABS9	Wetlands Treatment	5930	Maintenance of overhead lines/Distribution	661,221	616,768	512,486	612,385	588,680
TOTAL DISTRIBUTION				27,379,582	26,309,147	27,413,869	29,814,786	39,831,198
S/A01610/EE/ABS9SID	Distribution Subs Herbicide	5900	Maintenance of structures/Distribution	118,597	119,192	261,074	186,145	369,930
S/A01610/EE/ABS9SMD	Distribution Subs Mowing	5900	Maintenance of structures/Distribution	348,805	363,219	349,183	331,585	446,590
S/A01610/EE/ABS9SCD	Distribution Subs Misc	5900	Maintenance of structures/Distribution	95,228	231,952	45,344	150,584	171,128
S/A01610/EE/ABS9SHT-1	Transmission Subs Herbicide	5690	Maintenance of structures/Transmission	180,874	37,729	193,086	44,880	187,380
S/A01610/EE/ABS9SMT-1	Transmission Subs Mowing	5690	Maintenance of structures/Transmission	146,584	152,259	178,377	63,825	126,675
S/A01610/EE/ABS9SCF	Transmission Subs Misc	5900	Maintenance of structures/Distribution	59,321	85,179	8,185	22,420	25,160
TOTAL SUBSTATION				868,529	989,531	1,027,611	799,389	1,246,263
S/A01610/EE/TFP	Transmission Ops Proactive Trimming	5700	Maintenance of overhead lines/Transmission	5,367,353	5,816,865	7,542,820	5,688,936	5,120,561
S/A01610/EE/TPA	Transmission Ops Aerial Patrol	5700	Maintenance of overhead lines/Transmission	361,849	37,751	65,251	188,046	187,892
S/A01610/EE/TFR	Transmission Ops Reactive Trimming	5700	Maintenance of overhead lines/Transmission	97,255	55,055	189,833	171,482	744,117
S/A01610/EE/TFMP	Transmission Ops Mowing/Planned	5700	Maintenance of overhead lines/Transmission	986,173	1,124,408	1,184,379	1,225,506	1,338,440
S/A01610/EE/TMT	Transmission Ops Tower/Bermuda Release Spray	5700	Maintenance of overhead lines/Transmission	172,865	448,598	396,226	134,875	1,076,150
S/A01610/EE/TMR	Transmission Ops Mowing Reactive	5700	Maintenance of overhead lines/Transmission	328,583	329,216	32,264	41,117	99,653
S/A01610/EE/TH	Transmission Ops Herbicide	5700	Maintenance of overhead lines/Transmission	150,405	57,887	73,225	340,693	588,668
S/A01610/EE/TO	Transmission Ops Misc.	5700	Maintenance of overhead lines/Transmission	65,973	30,008	-	-	9,280
S/101610/EE/ABS9TO	Vegetation Management Transmission			7,530,376	7,899,288	9,482,889	7,788,665	9,154,141
S/101610/EE/XC13WO	Land Mgmt Work Orders ROW Cleanup	5930	Maintenance of overhead lines/Distribution	244,841	221,925	206,933	149,210	252,670
TOTAL TRANSMISSION				7,775,217	8,124,705	9,689,811	7,918,365	9,406,811
TOTAL PROACTIVE				36,023,338	35,220,383	38,141,291	38,691,559	50,484,271
S/101610/EE/AM1	Service Area Reactive Tree Trimming	5930	Maintenance of overhead lines/Distribution	5,081,025	3,375,884	3,582,095	3,696,170	5,526,188
TOTAL VEGETATION MANAGEMENT				41,104,363	38,596,067	41,653,387	42,388,729	56,010,379

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

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**BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS**

REDACTED

**DIRECT TESTIMONY AND ATTACHMENTS
OF SCOTT NORWOOD**

Attachment SN-3: CEHE's Response to TCUC 2-17

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PUC DOCKET NO. 56211
SOAH DOCKET NO. 473-24-13232
TEXAS COAST UTILITIES COALITION
REQUEST NO.: TCUC-RFI02-17

QUESTION:

Please provide cost/benefit analyses and other information supporting the prudence of each CEHE distribution capital project having a total cost of more than \$5 million for which the Company is seeking final approval from the Commission in this case.

ANSWER:

See Attachment TCUC-RFI02-17 Index R2.xlsx for an index of the benefit/cost analysis that has been performed for a number of the CEHE distribution capital projects that have a total cost of more than \$5 million that have been placed into service since 2018.

The index will provide the Project Number and Description similar to what was provided in previous DCRFs, a simplified description that closely corresponds to the terminology utilized by the Company's Asset Investment Strategy ("AIS") decision tool, and the page number in the attached pdf that provides the corresponding Project Evaluation Forms ("PEFs") that are produced by the AIS tool. See the attachment TCUC-RFI02-17 Project Evaluation Form (confidential).pdf.

The AIS decision tool produces non-monetized benefit/cost information for selected projects and programs as a way to optimize the Company's annual capital portfolio. This includes distribution, transmission, substation, and major underground projects. The benefit/cost information is based on a metric that is determined by the "benefits" divided by the "cost" of the project to give a cost-weighted value. The benefits are determined by a calculation based on megawatts at risk, probability of outage, number of components involved, and the duration of exposure as measured by repair time, plus additional multipliers, based on drivers for the project such as design criteria, reliability, supplemental benefits and corporate risk alignment. Please note that not all investments are modeled in the optimization process, such as public improvements (facility relocations), service restoration, distribution revenue, non-program corrective maintenance, fleet/facilities, information technology projects, and other non-T&D capital work.

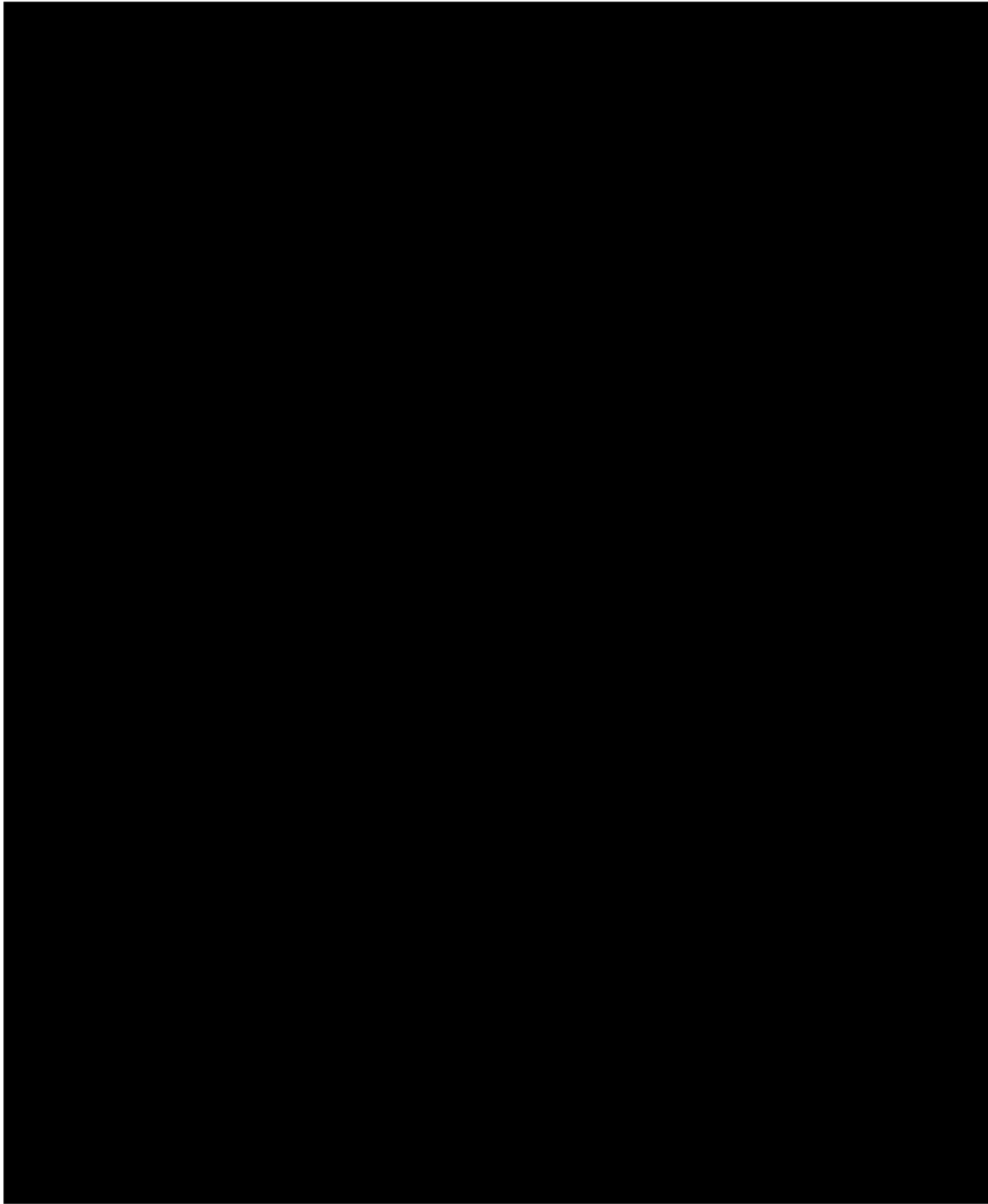
The attached file TCUC-RFI02-17 Project Evaluation Form (confidential).pdf includes PEFs for work that meets the \$5M threshold for those distribution projects that were sponsored and completed in 2019-2023.

Also, see the response to TCUC RFI 02-33 for additional support for the prudence of capital investments.

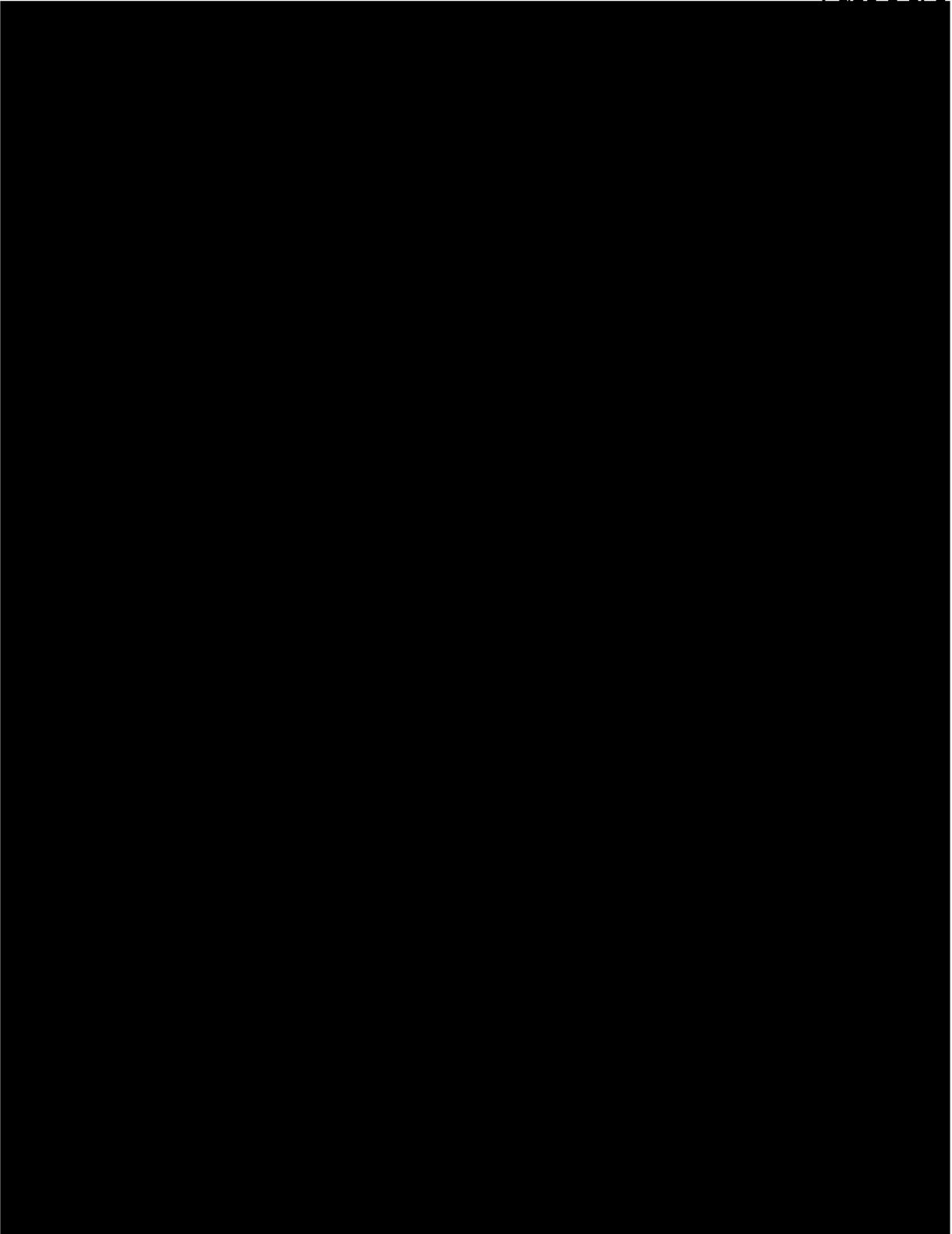
The attachment is confidential and is being provided pursuant to the Protective Order issued in Docket No. 56211.

SPONSOR:
Eric Easton

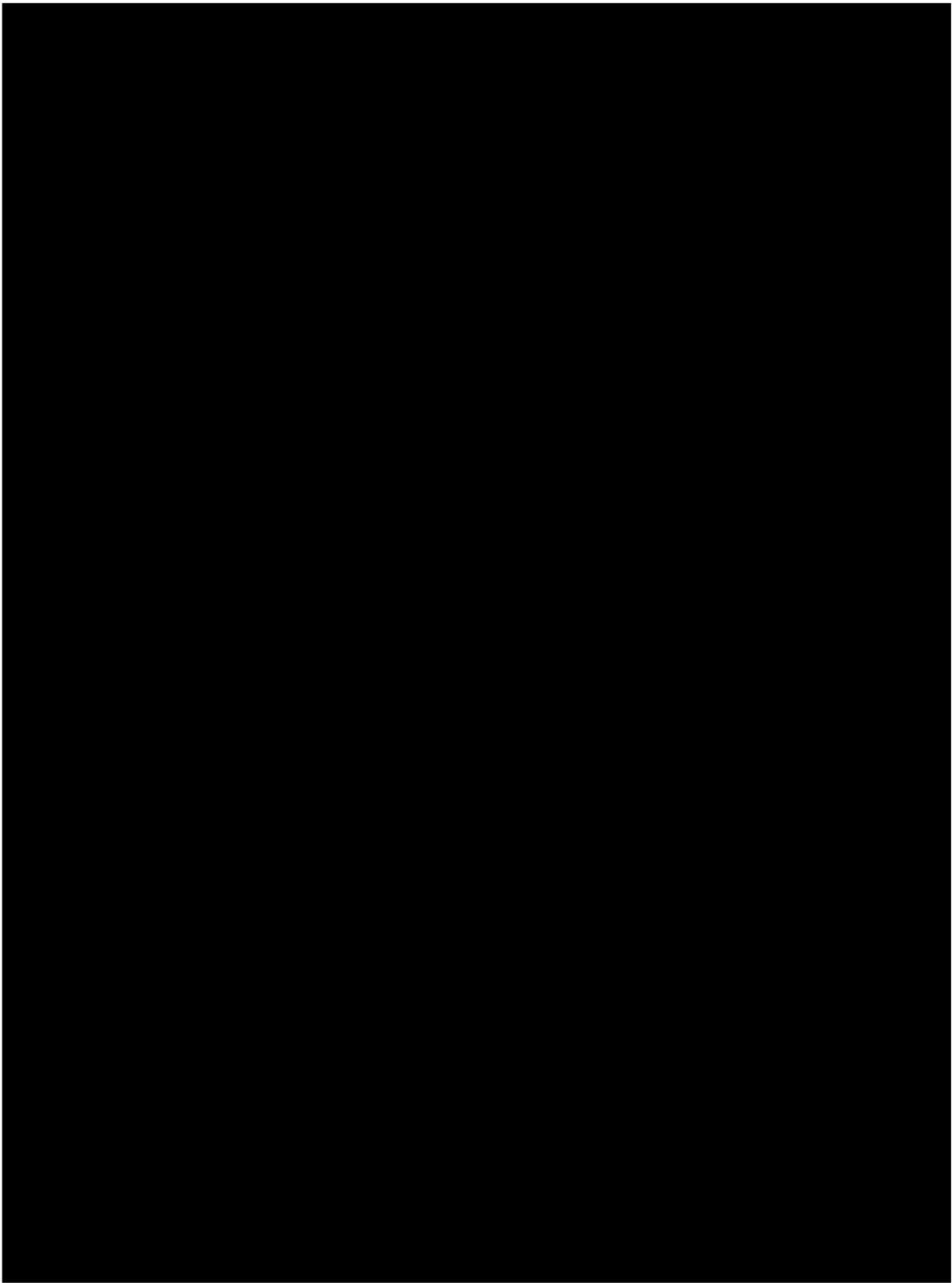
RESPONSIVE DOCUMENTS:
TCUC-RFI02-17 Index R2.xlsx
TCUC-RFI02-17 Project Evaluation Form (confidential).pdf



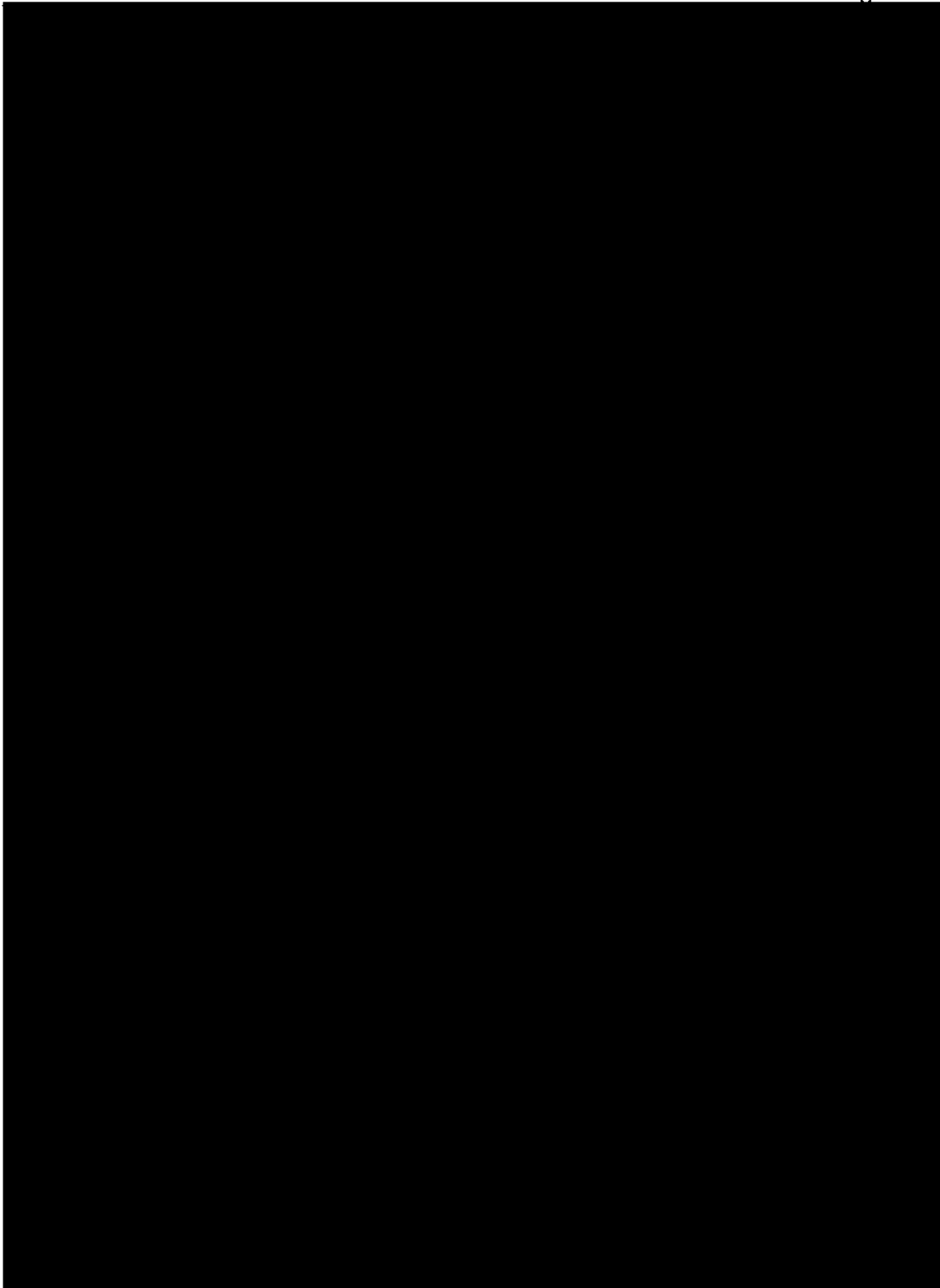
Attachment SN-3 (Confidential)

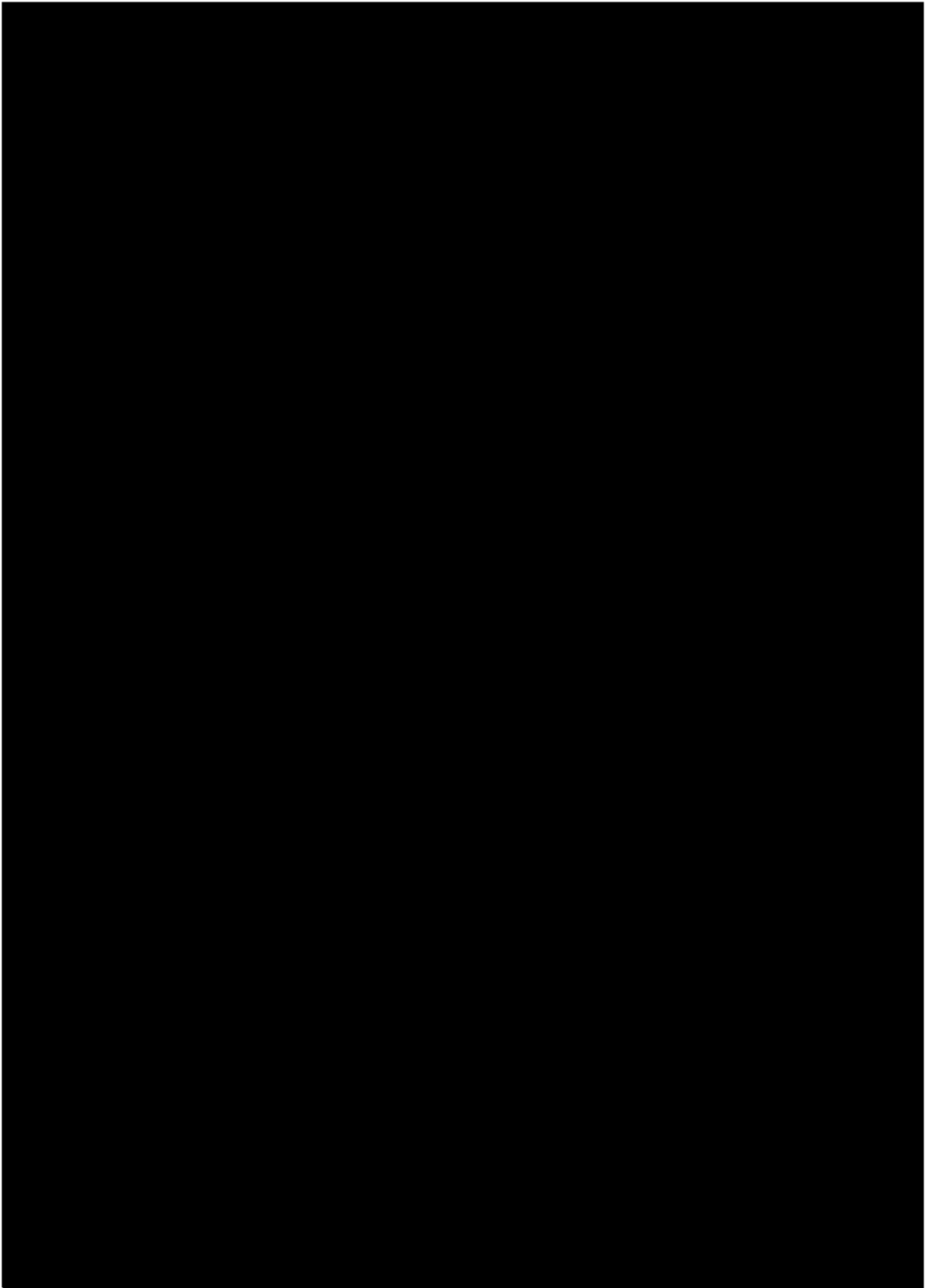


Attachment SN-3 (Confidential)

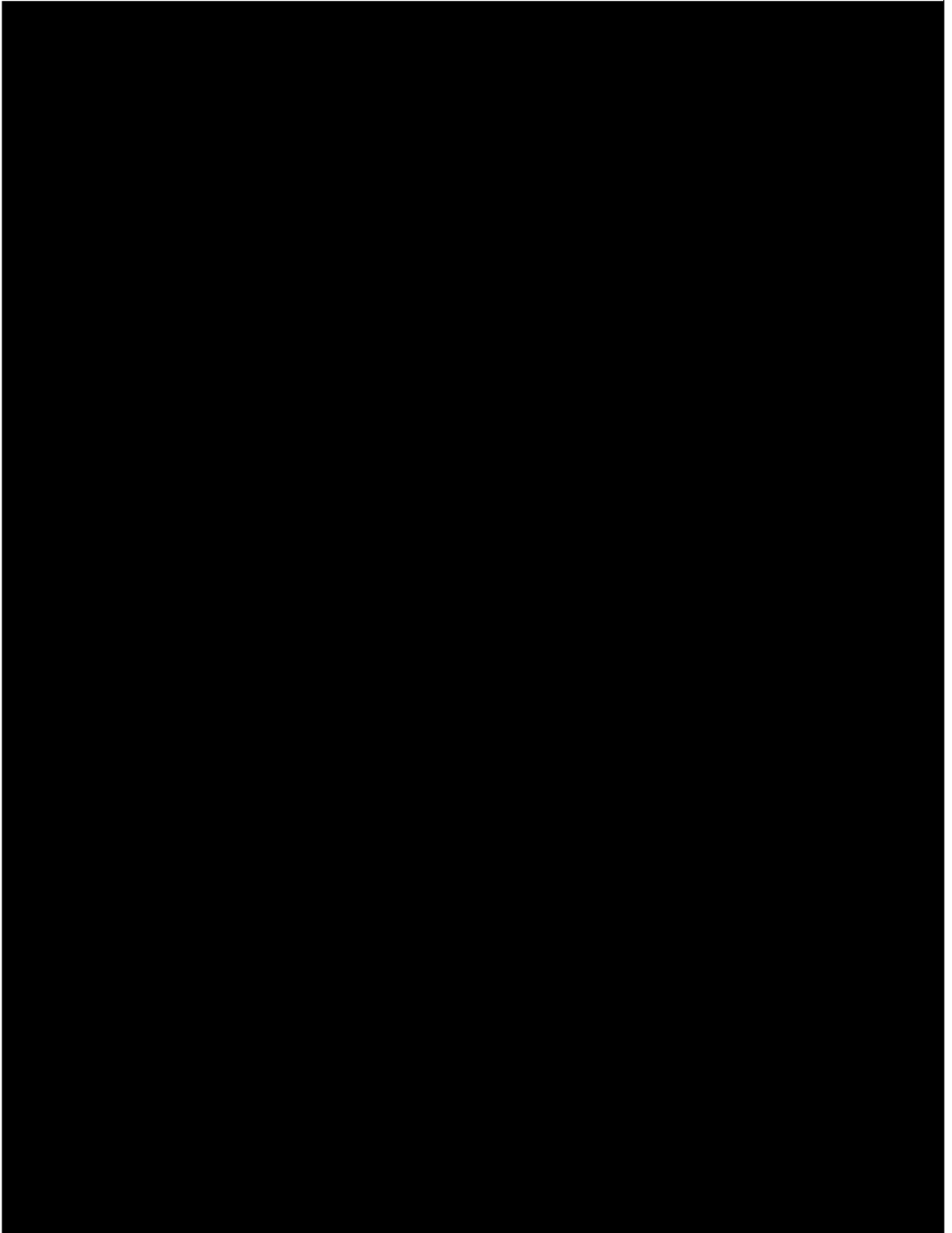


Attachment SN-3 (Confidential)

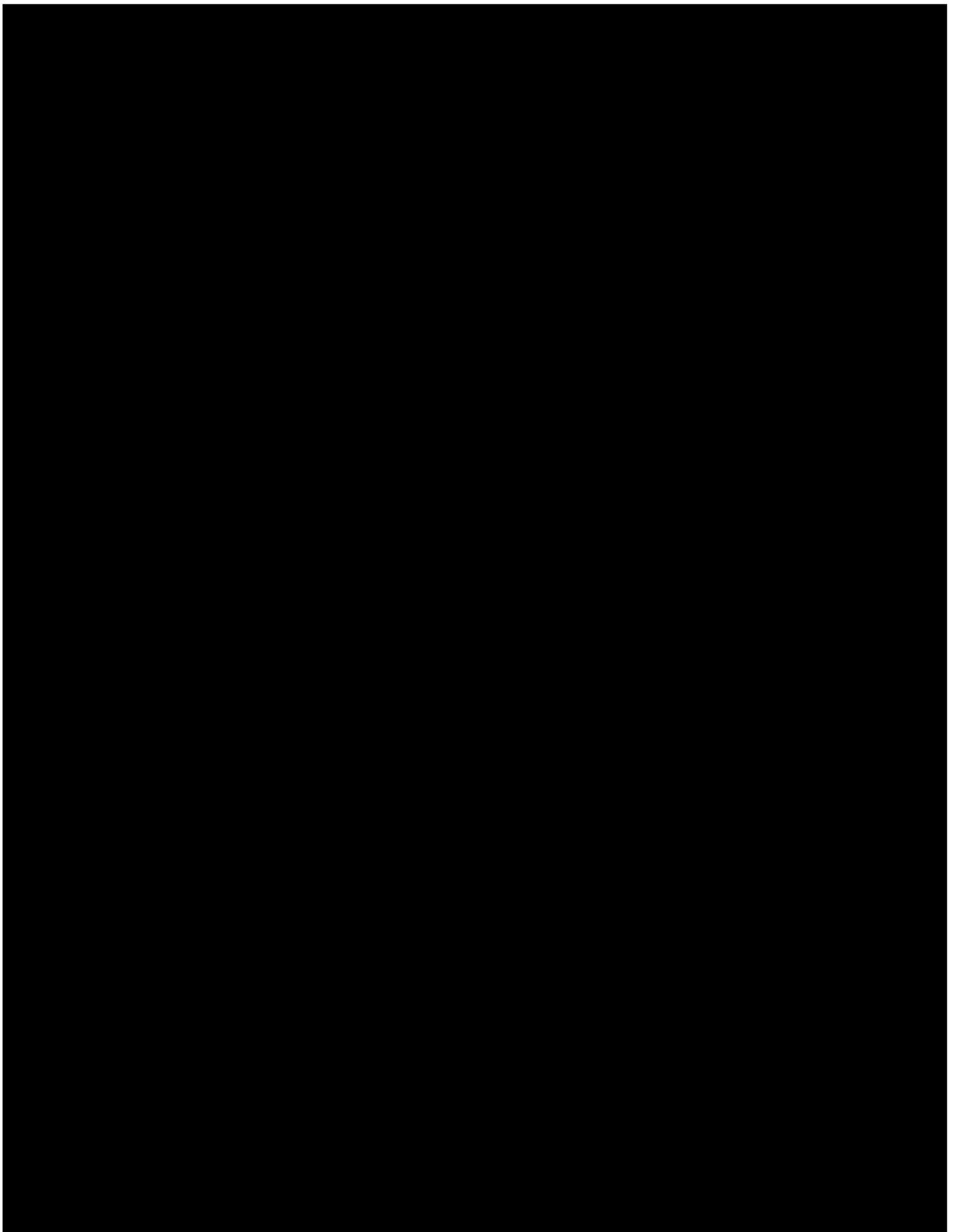




Attachment SN-3 (Confidential)
Page 7 of 8



Attachment SN-3 (Confidential)
Page 8 of 8



**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
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**BEFORE THE STATE OFFICE
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**DIRECT TESTIMONY AND ATTACHMENTS
OF SCOTT NORWOOD**

Attachment SN-4: CEHE's Definitions for PEF Valuation Criteria

**CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864
CITY OF HOUSTON
REQUEST NO.: COH13-06**

QUESTION:

Reference CEHE's response to City of Houston's Request for Information 01-22 and provide definitions for each criterion included in the Project Valuation score of each project and indicate whether values for each criterion represent monetary benefits, estimated value or some other basis.

ANSWER:

Please refer to the response to COH01-22 for a copy of the attachment, COH01-22 Project Evaluation Forms Attachment 2.pdf. Each of the Project Evaluation Forms (PEFs) includes the assumptions and explanations for the load at risk calculation for that project. The definitions for the load at risk criterion are:

- Base load at risk (Mw): The megawatts on the distribution/transmission circuit or substation component that is at risk of an outage if the project is not built.
- Number of Components at Risk: The number of components involved in a project. If there are 8 substation breakers involved in the project, then the number of components is 8.
- Probability of Failure: The historical outage rate or failure rate for each component.
- Days to Restore Operations, which is converted to hours: The typical number of days to restore service in the event of a failure or outage. This may range from 1 day for a distribution circuit to 14 days for a substation power transformer.
- Qualitative Adjustments (Reliability or Design Criteria Benefit): Additional credit is given for design criteria or reliability criteria justification for a project.
- Supplemental Benefits: Added credit for a number of supplemental categories including leverages existing technology, enables additional technology, contributes to overall infrastructure performance/improvement, increases infrastructure for future use, provides improved service quality to clients/customers, or provides benefits to other departments.
- Corporate Risk Alignment, if applicable: Additional credit if the project aligns with a stated corporate risk.

Monetary benefits are not calculated for a project or program as a part of its value calculation. Please see attachment COH13-06 AIS Benefit Training Guide.pdf for additional discussion for each criterion.

SPONSOR (PREPARER):

Dale Bodden/Randal Pryor (Dale Bodden/Randal Pryor)

RESPONSIVE DOCUMENTS:

COH13-06 AIS Benefit Training Guide.pdf

**CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864
CITY OF HOUSTON
REQUEST NO.: COH13-04**

QUESTION:

Reference CEHE's response to City of Houston's Request for Information 01-22 and provide forecasted monetary benefits and actual realized monetary benefits for each of the projects along with assumptions and other workpapers supporting these calculations.

ANSWER:

Monetary benefits are not calculated for a project or program as a part of its value calculation. Please see response for COH13-01 and COH13-03.

SPONSOR (PREPARER):

Dale Bodden/Randal Pryor (Dale Bodden/Randal Pryor)

RESPONSIVE DOCUMENTS:

None

**CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864**

**CITY OF HOUSTON
REQUEST NO.: COH13-03**

QUESTION:

Reference CEHE's response to City of Houston's Request for Information 01-22 and provide the definition of the Load at Risk criterion use for project valuation, provide the formula and assumptions for calculating this criterion, and explain whether the score for this criterion reflects estimated monetary benefit to customers or some other value.

ANSWER:

Load at Risk is a calculated value that quantifies the risk of not serving electric load. If a project is not built, there is a risk that load, or redundancy for serving that load (measured in Mw), will be lost, placing the existing system at risk for a period of time (Days, which is converted to hours) until the system is restored to a normal state.

The basic equation to quantify Load at Risk =

(Base load at risk (Mw) x Number of Components at Risk x Probability of Failure x Days to Restore Operations) +

Qualitative Adjustments (Reliability or Design Criteria Benefit and Supplemental Benefits) +

Corporate Risk Alignment, if applicable.

Please refer to the response to COH 1-22 for a copy of the attachment, COH 1-22 Project Evaluation Forms Attachment 2.pdf. Each of the Project Evaluation Forms (PEFs) includes the assumptions and explanations for the load at risk for that project. The load at risk is not a monetary benefit.

SPONSOR (PREPARER):

Dale Bodden/Randal Pryor (Dale Bodden/Randal Pryor)

RESPONSIVE DOCUMENTS:

None

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
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**DIRECT TESTIMONY AND ATTACHMENTS
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Attachment SN-5: CEHE's Response to TCUC 2-33

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PUC DOCKET NO. 56211
SOAH DOCKET NO. 473-24-13232
TEXAS COAST UTILITIES COALITION
REQUEST NO.: TCUC-RF102-33

QUESTION:

Please identify specific pages of each CEHE witness that address the prudence of capital expenditures requested in rates for the first time in this case.

ANSWER:

Prudence of capital expenditures is addressed by witnesses as follows:

Eric Easton:

Direct Testimony, pages 3-30, 32-39, 40-52 [Bates pages 242-269, 271-278, 279-291];
Exhibit EDE-1, all pages [Bates pages 293-294];
Exhibit EDE-2, all pages [Bates pages 295-300];
Workpaper WP EDE-1 (Customer Growth 2018-2023), page 1 [Bates page 302].

David Mercado:

Direct Testimony, pages 18-33, 35-37, 54-61 [Bates pages 327-342, 344-346, 363-370];
Workpaper DM-1 (Montana Order on NWP 12 April 15 2020), all pages [Bates pages 374-399];
Workpaper DM-2 (NWP12-Order-5.11.2020), all pages [Bates pages 400-437].

Deryl Tumlinson:

Direct Testimony, pages 2-6, 10-14, 18-28, 31-36 [Bates Pages 444-448, 452-456, 460-470, 473-478].

Randal Pryor:

Direct Testimony, pages 3-7, 10-24, 29-36, 40-53 [Bates pages 490-494, 497-511, 516-523, 527-540];
Exhibit RMP-3, all pages [Bates pages 546-557];
Workpaper WP RMP-1 (ALL WP RMP-1 DOCUMENTS AND ELECTRONIC FILES), all pages [Bates pages 558-640].

Mandie Shook:

Direct Testimony, pages 3-20, 25-26 [Bates pages 647-664, 669-670];
Workpaper WP MS-1 (Customer Count by Year), page 1 [Bates page 675].

Steven Greenley:

Direct Testimony, pages ES-1, 4-5, 16, 22-23 [Bates pages 1140, 1144-1145, 1156, 1162-1163].

Ronald Bahr:

Direct Testimony, pages 12-13, 15-16, 17-19, 21, 23-27, 29 [Bates pages 1189-1190, 1192-1193, 1194-1196, 1198, 1200-1204, 1206].

Carla Kneipp:

Direct Testimony, pages 24-25, 27 [Bates pages 1337-1338, 1340].

Additionally, prudence of capital expenditures is addressed in the following:

Schedules M-1, M-2, M-2.1, M-2.2, M-3.1, M-3.2: all pages [Bates pages 4293-4395].
Schedule Workpapers WP II-B-6, WP II-B-6 Adj 1: all pages [Bates pages 4576-4578].

The Company reserves the right to provide additional evidence regarding prudence for an individual

project or a group of projects to the extent that the issue of prudence is raised.

SPONSOR:

Eric Easton, David Mercado, Deryl Tumlinson, Randal Pryor, Mandie Shook, Steven Greenley,
Ronald Bahr, Carla Kneipp

RESPONSIVE DOCUMENTS:

None

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
ENERGY HOUSTON ELECTRIC,
LLC FOR AUTHORITY TO
CHANGE RATES**

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**BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS**

**DIRECT TESTIMONY AND ATTACHMENTS
OF SCOTT NORWOOD**

Attachment SN-6: Norwood Energy Consulting, LLC's Invoices

Norwood Energy Consulting, L.L.C.

P. O. Box 30197
Austin, Texas 78755-3197
scott@scottnorwood.com
(512) 297-1889

Mr. Alfred R. Herrera
Herrera Law & Associates, PLLC
4400 Medical Parkway
Austin, Texas 78756

Date: 4-3-24
Tax ID #: 26-2374359
Invoice#: CEHE RATE Mar24

Re: CEHE Rate Case Analysis - PUC Docket No. 56211

Statement for professional services rendered 3-1-24 through 3-31-24

3-07-24	Reviewed CEHE's direct testimony	5.5 hrs
3-08-24	Reviewed direct testimony and past DCRF orders	4.0 hrs
3-10-24	Reviewed testimony; drafted RFIs	<u>3.0 hrs</u>

Total hours: 12.5 hrs

Total due: 12.5 hours at \$240 per hour = \$3,000

Thank you for the opportunity to assist with this project.

Norwood Energy Consulting, L.L.C.

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Austin, Texas 78755-3197
scott@scottnorwood.com
(512) 297-1889

Mr. Alfred R. Herrera
Herrera Law & Associates, PLLC
4400 Medical Parkway
Austin, Texas 78756

Date: 5-5-24
Tax ID #: 26-2374359
Invoice#: CEHE RATE APR24

Re: CEHE Rate Case Analysis - PUC Docket No. 56211

Statement for professional services rendered 4-1-24 through 4-30-24

4-01-24	Reviewed CEHE's direct testimony and RFI responses	4.0 hrs
4-02-24	Reviewed CEHE's direct testimony; drafted RFIs	5.5 hrs
4-03-24	Reviewed direct testimony; drafted RFIs	6.0 hrs
4-18-24	Reviewed CEHE RFI responses	5.0 hrs
4-24-24	Reviewed CEHE RFI responses	3.5 hrs
4-29-24	Reviewed responses to TCUC's 2 nd set of RFIs	<u>4.5 hrs</u>

Total hours: 28.5 hrs

Total due: 28.5 hours at \$240 per hour = \$6,840

Thank you for the opportunity to assist with this project.

Norwood Energy Consulting, L.L.C.

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Austin, Texas 78755-3197
scott@scottnorwood.com
(512) 297-1889

Mr. Alfred R. Herrera
Herrera Law & Associates, PLLC
4400 Medical Parkway
Austin, Texas 78756

Date: 6-7-24
Tax ID #: 26-2374359
Invoice#: CEHE RATE MAY24

Re: CEHE Rate Case Analysis - PUC Docket No. 56211

Statement for professional services rendered 5-1-24 through 5-31-24

5-01-24	Reviewed CEHE's RFI responses	4.5 hrs
5-06-24	Reviewed CEHE's direct testimony on distribution grid Reliability projects; drafted RFIs	6.0 hrs
5-09-24	Reviewed direct testimony and RFI responses	3.5 hrs
5-14-24	Reviewed increase in vegetation management costs	6.5 hrs
5-24-24	Reviewed CEHE RFI responses	4.5 hrs
5-30-24	Reviewed RFIs responses and support for capital Projects	<u>6.0 hrs</u>

Total hours: 31.0 hrs

Total due: 31.0 hours at \$240 per hour = \$7,440

Thank you for the opportunity to assist with this project.

**SOAH DOCKET NO. 473-24-13232
PUC DOCKET NO. 56211**

**APPLICATION OF CENTERPOINT
ENERGY HOUSTON ELECTRIC,
LLC FOR AUTHORITY TO
CHANGE RATES**

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**BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS**

**DIRECT TESTIMONY AND ATTACHMENTS
OF SCOTT NORWOOD**

Workpapers

TCUC (Norwood) Preliminary Issues/Adjustments -REVISED 6/14

	<u>Adjust (\$Millions)</u>	<u>Cost Type</u>	<u>FERC Acct</u>	<u>In-Service Date</u>	<u>Basis for Adjustment</u>	
1. TY Distrib Vegetation Management	\$6.83	O&M	593	N/A	Extraordinary Increase/Reasonableness	
2. Distribution Substations	\$59.51	Capital	362	See Projects Below	Need/Cost-Effectiveness	
3. Land for Future Substation	\$75.43	Capital	360	2025 Est	Not in Service till 2025	
<u>Distribution Subs:</u>						<u>Value/Cost Ratio</u>
Jordan Sub Expansion	\$16,436,699	Capital	362	2020	Need/Cost-Effectiveness	0.00
Rayford Sub Expansion	\$15,150,360	Capital	362	2023	Need/Cost-Effectiveness	0.02
Angleton Sub Expansion	\$8,746,305	Capital	362	2022	Need/Cost-Effectiveness	0.00
Tanner Sub Expansion	\$8,165,845	Capital	362	2023	Need/Cost-Effectiveness	0.03
Blodgett Sub Expansion	\$5,637,500	Capital	362	2019	Need/Cost-Effectiveness	0.01
Northside Sub Expansion	<u>\$5,377,940</u>	Capital	362	2019	Need/Cost-Effectiveness	0.03
Total Sub Projects	\$59,514,649					

Distribution Veg Mgt TCUC 2-22

	<u>VegMgt Expense</u>	<u>% Change</u>
2019	\$27,379,592	
2020	\$26,109,147	-4.6%
2021	\$27,423,869	5.0%
2022	<u>\$29,954,796</u>	9.2%
2019-22 Avg	\$27,716,851	
2023	\$39,831,198	43.7%
110% of 22	<u>\$33,000,000</u>	
Adjustment	\$6,831,198	
Increase to Avg	\$5,283,149	
%Increase v Avg	19.1%	

TCUC 2-30

	<u>Line-Miles</u>	<u>Change, %/Yr</u>
2019	22,672	
2020	22,856	0.8%
2021	23,050	0.8%
2022	23,242	0.8%
2023	23,431	0.8%
2019-23 Change:	3.3%	

	<u>Veg Mgt Exp</u>	<u>Veg Outage Minutes</u>	<u>% of Annual Time</u>	Forced outage Minutes	% Vegetation
2019	\$27,379,592	19.8	0.0038%	152.68	12.95%
2020	\$26,109,147	16.2	0.0031%	122.03	13.25%
2021	\$27,423,869	18.9	0.0036%	135.94	13.89%
<u>2022</u>	<u>\$29,954,796</u>	<u>20.4</u>	<u>0.0039%</u>	164.65	12.37%
Average	\$27,716,851	18.8	0.0036%		
2023	\$39,831,198		99.9964%		

	<u>Cost</u>	<u>In-Service Date</u>	<u>Discretionary?</u>	<u>Reliability Benefit</u>	<u>Total Value</u>	<u>Value/Cost Ratio</u>
Jordan Sub Feeders	\$16,436,699	2020	Yes	0	80,824	0.00
Kayford Sub Transformer/Brks	\$15,150,360	2023	Yes	0	345,220	0.02
Angleton Sub Transformers	\$8,746,305	2022	Yes	0	30,222	0.00
Tanner Sub Transformer/Fdr	\$8,165,845	2023	Yes	0	255,638	0.03
Blodgett Sub Transformer/Fdr	\$5,637,500	2019	Yes	0	67,052	0.01
Northside Sub Transformer/Fdrs	<u>\$5,377,940</u>	2019	Yes	0	<u>157,834</u>	<u>0.03</u>
Total Sub Projects	\$59,514,649				936,790	0.02

Norwood Energy Consulting
Estimated Remaining Charges for Docket 56211
June 1, 2024 through End of Case

	Est. Remaining <u>Man-hours</u>
1. Complete Analysis&Direct Testimony	40
2. Respond to Discovery	6
3. Review Rebuttal Testimony	12
4. Assist with Cross	12
5. Prepare and Attend Hearing	8
6. Assist with Briefs	6
7. Assist with Appeal	<u>6</u>
Total Remaining Man-hours	90
Remaining Fees at \$240/hr	\$21,600
Other Expenses	<u>\$0</u>
Est. Remaining Charges	\$21,600

II-D-1

PUBLIC UTILITY COMMISSION OF TEXAS
CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
II-D-1 OPERATION AND MAINTENANCE EXPENSES
TEST YEAR ENDING 12/31/2023
DOCKET NO. 56211
SPONSOR: K. COLVIN

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
Line No	FERC Account	Description	Reference Schedule	Total Company	Non-Regulated or Non-Electric	Known and Measurable Changes	Company Total Electric	FF #	Functionalization Factor Name	Allocation to Texas	TRAN	DIST	MET	TDCS	Total	CHECK
1	Transmission Expense															
2																
3		Operation	II-D-1													
4	5600	Oper Supv & Eng		8,597,554	-	143,793	8,743,347	2	TRAN	8,743,347	8,743,347	-	-	-	8,743,347	
5	5611	Load Dispatch-Reliability		23,457	-	2,487	25,944	2	TRAN	25,944	25,944	-	-	-	25,944	
6	5612	LdDispatch-Maint&OpTransSyst		3,412,634	-	15,192	3,427,826	2	TRAN	3,427,826	3,427,826	-	-	-	3,427,826	
7	5613	LdDispatch-TransSrvc&Sched		75,541	-	6,165	81,706	2	TRAN	81,706	81,706	-	-	-	81,706	
8	5614	SchdSystCntrl&DispatchSrvc		2,779,069	-	(1,761)	2,777,308	2	TRAN	2,777,308	2,777,308	-	-	-	2,777,308	
9	5615	Reliability Prg&StandrdsDev		938,279	-	(19,351)	918,928	2	TRAN	918,928	918,928	-	-	-	918,928	
10	5617	Generatr&lnfrctr&Studies		336,147	-	(16,394)	319,752	2	TRAN	319,752	319,752	-	-	-	319,752	
11	5620	Station Exp		197,078	-	107,250	304,328	2	TRAN	304,328	304,328	-	-	-	304,328	
12	5630	Overhead Line Exp		818,372	-	103,190	921,562	2	TRAN	921,562	921,562	-	-	-	921,562	
13	5640	Underground Line Exp		269	-	-	269	2	TRAN	269	269	-	-	-	269	
14	5650	Elec Transm by Oth		1,102,891,149	-	304,238,829	1,407,129,979	3	DIST	1,407,129,979	-	1,407,129,979	-	-	1,407,129,979	
15	5660	Misc Transmission Ex		3,309,671	-	189,226	3,498,896	2	TRAN	3,498,896	3,498,896	-	-	-	3,498,896	
16	5670	Rents		317,499	-	-	317,499	2	TRAN	317,499	317,499	-	-	-	317,499	
17																
18	Subtotal 560-567			1,123,696,719	-	304,770,625	1,428,467,343			1,428,467,343	21,337,364	1,407,129,979	-	-	1,428,467,343	
19																
20		Maintenance	II-D-1													
21	5690	Maint of Structures		611,995	-	148,104	760,099	28	E35301	760,099	691,834	68,265	-	-	760,099	
22	5700	Maint of Sta Equip		11,375,686	-	456,261	11,831,948	28	E35301	11,831,948	10,769,312	1,062,636	-	-	11,831,948	
23	5710	Maint of Ovrbd Lines		17,641,917	-	221,963	17,863,879	2	TRAN	17,863,879	17,863,879	-	-	-	17,863,879	
24	5720	Maint of Undrg Lines		269	-	-	269	2	TRAN	269	269	-	-	-	269	
25	5730	Maint of Misc Trans		621,607	-	(2,772)	618,835	2	TRAN	618,835	618,835	-	-	-	618,835	
26																
27	Subtotal 569-573			30,251,474	-	823,555	31,075,029			31,075,029	29,944,129	1,130,901	-	-	31,075,029	
28																
29	TOTAL TRANSMISSION EXPENSE		II-D-1	1,153,948,193	-	305,594,180	1,459,542,373			1,459,542,373	51,281,493	1,408,260,880	-	-	1,459,542,373	
30																
31	Distribution															
32																
33		Operation	II-D-1													
34	5810	Load Dispatching		3,389,984	-	63,618	3,453,601	3	DIST	3,453,601	-	3,453,601	-	-	3,453,601	
35	5820	Station Exp		794,209	-	380,671	1,174,879	3	DIST	1,174,879	-	1,174,879	-	-	1,174,879	

36	5830	Overhd Line Exp	3,121,087	-	1,149,653	4,270,740	3	DIST	4,270,740	-	4,270,740	-	-	4,270,740
37	5840	Undrgr Line Exp	12,057,268	-	1,179,821	13,237,089	3	DIST	13,237,089	-	13,237,089	-	-	13,237,089
38	5850	St Light & Signal Ex	39,809	-	(6,417)	33,392	3	DIST	33,392	-	33,392	-	-	33,392
39	5860	Meter Exp	22,512,468	-	1,352,984	23,865,451	4	MET	23,865,451	-	-	23,865,451	-	23,865,451
40	5870	Cust Installat Exp	2,794,161	-	292,093	3,086,254	3	DIST	3,086,254	-	3,086,254	-	-	3,086,254
41	5890	Rents	-	-	-	-	3	DIST	-	-	-	-	-	-
42														
43		Subtotal 581-589	44,708,986	-	4,412,422	49,121,407			49,121,407	-	25,255,956	23,865,451	-	49,121,407
44														
45	5800	Oper Supv & Eng	22,492,623	-	968,648	23,461,271	3	DIST	23,461,271	-	23,461,271	-	-	23,461,271
46	5880	Misc Distrib Exp	29,617,903	-	437,576	30,055,479	3	DIST	30,055,479	-	30,055,479	-	-	30,055,479
47														
48		Subtotal 580 & 588	52,110,526	-	1,406,224	53,516,750			53,516,750	-	53,516,750	-	-	53,516,750
49														
50		Distribution-Operational Total	96,819,512	-	5,818,646	102,638,158			102,638,158	-	78,772,706	23,865,451	-	102,638,158
51														
52		<u>Maintenance</u>		II-D-1										
53	5910	Maint of Structures	1,123,988	-	8,882	1,132,870	38	E36201	1,132,870	404,724	728,146	-	-	1,132,870
54	5920	Maint of Sta Equip	12,438,001	-	498,539	12,936,540	38	E36201	12,936,540	4,621,651	8,314,888	-	-	12,936,540
55	5930	Maint of Ovhd Lines	80,322,953	-	1,948,093	82,271,047	3	DIST	82,271,047	-	82,271,047	-	-	82,271,047
56	5940	Maint of Undrg Lines	12,788,332	-	317,584	13,105,916	3	DIST	13,105,916	-	13,105,916	-	-	13,105,916
57	5950	Maint of Line Transf	4,588,981	-	-	4,588,981	3	DIST	4,588,981	-	4,588,981	-	-	4,588,981
58	5960	Maint St Lite & Sig	2,261,942	-	88,793	2,350,735	3	DIST	2,350,735	-	2,350,735	-	-	2,350,735
59	5970	Maint of Meters	4,514,290	-	(243)	4,514,048	4	MET	4,514,048	-	-	4,514,048	-	4,514,048
60	5980	Maint of Misc Distr	625,779	-	(1,342)	624,437	3	DIST	624,437	-	624,437	-	-	624,437
61														
62		Subtotal 591-598	118,664,267	-	2,860,307	121,524,573			121,524,573	5,026,376	111,984,150	4,514,048	-	121,524,573
63														
64	5900	Maint Supv & Eng	3,881,205	-	(139,984)	3,741,221	3	DIST	3,741,221	-	3,741,221	-	-	3,741,221
65														
66		Subtotal 590 & 598.2	3,881,205	-	(139,984)	3,741,221			3,741,221	-	3,741,221	-	-	3,741,221
67														
68		TOTAL DISTRIBUTION EXPENSE	219,364,984	-	8,538,968	227,903,952			227,903,952	5,026,376	194,498,078	28,379,499	-	227,903,952
69														
70		<u>Customer Accounting Expenses</u>		II-D-1										
71	9020	Meter Reading Exp	1,156,552	-	(312)	1,156,239	4	MET	1,156,239	-	-	1,156,239	-	1,156,239
72	9030	Cust Records & Colle	15,898,949	-	84,372	15,983,321	5	TDCS	15,983,321	-	-	15,983,321	-	15,983,321
73														
74		Subtotal 902-903	17,055,500	-	84,060	17,139,560			17,139,560	-	-	1,156,239	15,983,321	17,139,560
75														
76	9010	Supervision	-	-	-	-	5	TDCS	-	-	-	-	-	-
77	9040	Uncollectible Accts	-	-	1,578,674	1,578,674	5	TDCS	1,578,674	-	-	-	1,578,674	1,578,674
78														
79		Subtotal Customer Accounting	-	-	1,578,674	1,578,674			1,578,674	-	-	-	1,578,674	1,578,674
80														
81		<u>Cust. Service & Information Expense</u>		II-D-1										
82	9080	Cust Assistance Exp	41,102,386	-	(39,450,063)	1,652,323	5	TDCS	1,652,323	-	-	-	1,652,323	1,652,323
83	9090	Info & Instruc Adv	228,622	-	(1,519)	227,103	5	TDCS	227,103	-	-	-	227,103	227,103
84														
85		Subtotal 906-909	41,331,008	-	(39,451,582)	1,879,426			1,879,426	-	-	-	1,879,426	1,879,426

86														
87	9070	Supervision	810,359	-	(810,468)	(109)	5	TDCS	(109)	-	-	-	(109)	(109)
88	9100	Misc Cust Srv & Info	167,750	-	(122)	167,627	5	TDCS	167,627	-	-	-	167,627	167,627
89														
90		Subtotal 907 & 910	978,108		(810,590)	167,518			167,518				167,518	167,518
91														
92		TOTAL-CUSTOMER SERVICE & INFO.	II-D-1	59,364,617	-	(38,599,438)	20,765,178		20,765,178	-	-	1,156,239	19,608,939	20,765,178
93														
94		Sales Expense	II-D-1											
95														
96		Subtotal 912-917												
97														
98														
99		Subtotal Sales												
100														
101		TOTAL SALES EXPENSE	II-D-1	-	-	-	-		-	-	-	-	-	-
102														
103		TOTAL O& M EXPENSE	II-D-1	1,432,677,793	-	275,533,710	1,708,211,503		1,708,211,503	56,307,869	1,602,758,957	29,535,738	19,608,939	1,708,211,503

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
Plant In Service Balance by FERC

YEAR	Source	Total*		Transmission		Distribution		Meters		TDCS	
2019	TCUC 2-2,At1	12,390,125,138		3,962,180,395		7,853,358,396		380,741,685		164,883,635	
2020	TCUC 2-2,At1	13,085,462,584	5.6%	4,231,985,776	6.8%	8,240,037,625	4.9%	410,290,345	7.8%	172,394,293	4.6%
2021	TCUC 2-2,At1	14,416,245,159	10.2%	5,052,898,847	19.4%	8,706,612,641	5.7%	448,071,219	9.2%	179,297,385	4.0%
2022	TCUC 2-2,At1	16,045,041,180	11.3%	5,690,582,619	12.6%	9,580,444,042	10.0%	525,296,943	17.2%	226,294,384	26.2%
2023	Seh 11-B-3	17,795,166,166	10.9%	6,422,486,595	12.9%	10,582,141,737	10.5%	566,001,422	7.7%	224,536,412	-0.8%
2019-23		5,405,041,027	43.6%	2,460,306,199	62.1%	2,728,783,341	34.7%	185,259,737	48.7%	59,652,777	36.2%

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
Capital Additions by FERC

YEAR	Source	Total*		Transmission		Distribution		Meters		TTCS	
2019	TCUC 2-2, At2	943,594,203		339,036,223		509,036,371		51,500,990		37,161,694	
2020	TCUC 2-2, At2	878,735,765	-6.9%	305,053,646	-10.0%	516,835,547	1.5%	41,983,989	-18.5%	12,626,624	-66.0%
2021	TCUC 2-2, At2	1,497,414,283	70.4%	852,440,180	179.4%	577,403,261	11.7%	51,934,078	23.7%	17,026,241	34.8%
2022	TCUC 2-2, At2	1,964,645,270	31.2%	932,155,210	9.4%	963,362,029	66.8%	57,236,900	10.2%	17,840,127	4.8%
2023	TCUC 2-2, At2	2,140,307,750	8.9%	812,772,096	-12.8%	1,237,974,692	28.5%	67,927,138	18.7%	24,256,318	36.0%
2019-23 TOT		5,284,389,522	560.0%	2,428,685,259	716.3%	2,566,637,208	504.2%	202,655,957	393.5%	84,654,686	227.8%
2019-23 AVG		1,484,939,454		648,291,471		760,922,380		54,116,619		21,782,201	
	Total*	Transmission	Distribution	Meters	TTCS						
2019	943,594,203	339,036,223	509,036,371	51,500,990	37,161,694						
2020	878,735,765	305,053,646	516,835,547	41,983,989	12,626,624						
2021	1,497,414,283	852,440,180	577,403,261	51,934,078	17,026,241						
2022	1,964,645,270	932,155,210	963,362,029	57,236,900	17,840,127						
2023	2,140,307,750	812,772,096	1,237,974,692	67,927,138	24,256,318						

TCUC 2-9

TCUC 2-7

CALC

	SAIFI OUTAGES/YR	SAIDI OUTAGE MINS/YR	RELIABILITY SERVICE MINS/YR
2018	1.64	173.74	99.967%
2019	1.74	207.07	99.961%
2020	1.55	163.34	99.969%
2021	1.62	176.86	99.966%
2022	1.97	220.09	99.956%
2023	1.86	176.47	99.966%
AVERAGE	1.73	187.76	99.964%
THE GOALS:	1.24	125.72	99.976%

Service Quality Report to the Public Utility Commission of Texas

CenterPoint Energy

System SAIFI	Annual	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Forced													
2018	1.13	0.09	0.06	0.07	0.06	0.11	0.13	0.10	0.11	0.10	0.12	0.06	0.14
Scheduled													
2019	0.34	0.03	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Outside Causes													
2018	0.14	0.02	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.02	0.01	0.01	0.02
Major Events													
2018	0.09	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00

A1

US_SQI CH1 2018.05
System SAIFI

Service Quality Report to the Public Utility Commission of Texas

CenterPoint Energy

System SAIDI	Annual	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Forced													
2018	116.46	9.03	5.83	7.56	8.24	14.71	13.25	10.68	9.90	9.87	11.68	6.54	12.27
Scheduled													
2018	50.05	3.17	3.06	7.02	3.05	4.16	5.36	3.74	4.06	3.19	4.03	3.14	3.49
Outside Causes													
2018	7.23	0.53	0.15	0.04	0.06	3.71	0.06	0.36	0.57	0.31	0.34	0.31	0.74
Major Events													
2018	4.65	1.38	0.01	0.01	0.08	3.00	0.01	0.02	0.90	3.08	0.20	0.03	0.07

A2

US_SQI CH1 2018.05
System SAIDI

SOURCE: TCUC 2-18

**Formal Complaints
January 2019 - December 2023**

Summary of Complaints							AVG/YEAR
Entity	2019	2020	2021	2022	2023	Total Counts	
Public Utility Commission of Texas	471	619	870	810	1619	4389	878
Executive	13	7	90	53	35	198	40
Better Business Bureau (BBB)	20	23	55	71	30	199	40
City of Houston (COH)	35	41	44	61	59	240	48
ECONNECT -CenterPoint Energy Website	24	36	34	24	64	182	36
Total Commercial Complaints	29	65	48	69	77	288	58
Total Residential Complaints	534	661	1045	950	1730	4920	984
Total Complaints	563	726	1093	1019	1807	5208	1,042
OUTAGE/SERVICE COMPLAINTS	154	285	557	290	1054	2340	468
% OF TOTAL COMPLAINTS	27.4%	39.3%	51.0%	28.5%	58.3%	44.9%	44.9%
TOTAL CUSTOMERS - (TCUC 2-26)	2,551,741	2,616,994	2,677,815	2,723,180	2,779,849	13,349,579	2,669,916
OUT/SERV COMPLAINTS %TOTAL CUSTOMERS	0.006%	0.011%	0.021%	0.011%	0.038%	0.018%	0.018%

Summary of Complaints by Type - Public Utility Commission of Texas ¹						
Inquires (Verifying, REP, Transactions, History)	181	175	150	215	217	938
Agent Interaction Customer Service			2	10		12
AMS	8	2	4	2	3	19
Claims/Restoration	1	2	3	5	9	20
Construction		3	3			6
Crossed/Switched Meter			3	5	5	13
Disconnect Non-pay		2			4	6
Disputed Charges to Rep	23	15	47	30	75	190
Diversion	3	1		1	1	6
Employee Interaction	1	3	1	5	2	12
Guardlight/Street Lighting	2	1		2	4	9
High Bill	71	113	136	207	204	731
Inaccurate Reading			1	1		2
Inadequate Service	3					3
Maintenance			11	8	10	29
New Service Request				29	14	43
Order Scheduling	12	10	14	24	26	86
Other (Critical Care, Fire Hydrant, etc)	30	29	8		9	76
Outages	129	257	466	235	986	2073
Rate/Tariff	4	3	7	8	10	32
Safety Concerns			14	22	40	76
Tree Trim/Mow	3	3		1		7
Total Complaints by Category	471	619	870	810	1619	4389

Summary of Complaints by Type - Executive						
AMS		1		1		2
Billing			20	6	1	27
Claims/Restoration	1		1	5	1	8
Employee Interaction			4	2	3	9
Guardlight/Street Lighting		1	1		2	4
Inadequate Service	1	1	1			3
Maintenance			7	5	2	14
New Service Request			3	1	7	11
Order Scheduling	2	3	7	6	3	21
Other	4		10	9		23
Outages	4	1	33	15	13	66
Rate/Tariff			2		1	3
Tree Trim/Mow	1					1
Safety Concerns			1	3	2	6
Total Complaints by Category	13	7	90	53	35	198

Summary of Complaints by Type - BBB						
AMS		2	1	2		5
Billing	1	1	9	17	7	35
Claims/Restoration	6	1	2	3	3	15
Construction			1			1
Disputed Charges	2	2	2			6
Guardlight/Street Lighting		2	1		2	5
Inadequate Service			1			1
Maintenance			2	7	1	10
New Service Request			1	2	1	4
Operations						0
Order Scheduling	1	3	1	10	2	17
Other	6	4	7	10	1	28
Outages	2	7	25	16	11	61
Rate/Tariff			1	1	1	3
Safety Concerns			1	3	1	5
Tree Trim/Mow	2	1				3
Total Complaints by Category	18	23	55	71	30	199

Summary of Complaints by Type - COH						
AMS			1	1	2	4
Billing		1		3	2	6
Claims/Restoration	2	1	5	3	2	13
Construction			2			2
Disconnect for Non-pay		3				3
Disputed Charges	1	1	2			4
Diversion	1					1
Employee Interaction	1					1
Guardlight/Street Lighting	5	4	1	2	7	19
Inadequate Service		1				1
Maintenance			6	2	2	10
New Service Request				2	3	5
Order Scheduling	5	2	3	5	3	18
Other	11	15	3	6	1	36
Outages	6	10	15	22	19	72
Rate/Tariff			1			1
Safety Concerns			5	15	18	38
Tree Trim/Mow	3	3				6
Total Complaints by Category	35	41	44	61	59	240

Summary of Complaints by Type - ECONNECT - CenterPoint Energy Website						
AMS					3	3
Billing	1		3	4	3	11
Claims/Restoration	1	2	1	1	4	9
Construction		3	1			4
Disconnect non-payment		1				1
Disputed Charges	1					1
Employee Interaction	1				1	2
Guardlight/Street Lighting	1	1			2	4
Inadequate Service	1	1				2
Maintenance			2	2	6	10
New Service Request			2	5	4	11
Order Scheduling	3	5	2	5	5	20
Other	4	15	4	4	5	32
Outages	8	7	16	2	25	58
Rate/Tariff			1		1	2
Safety Concerns			2	1	5	8
Tree Trim/Mow	3	1				4
Total Complaints by Category	24	36	34	24	64	182

Note 1:

Indicates consumer complaints submitted using the
PUCT informal complaint process via the link below.

<https://www.puc.texas.gov/consumer/complaint/complaint.aspx>

	TCUC 2-19	TCUC 2-26	CALC
	<u>CUSTOMERS REQ PREMIUM</u>	<u>TOTAL CUSTOMERS</u>	<u>% OF TOTAL</u>
2019	13.0	2,551,741	0.0005%
2020	5.0	2,616,994	0.0002%
2021	9.0	2,677,815	0.0003%
2022	9.0	2,723,180	0.0003%
2023	<u>3.0</u>	<u>2,779,849</u>	<u>0.0001%</u>
AVERAGE	7.8	2,669,916	0.0003%

PUBLIC UTILITY COMMISSION OF TEXAS
CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
II-B-1 ORIGINAL COST OF UTILITY PLANT
TEST YEAR ENDING 12/31/2023
DOCKET NO. 56211
SPONSOR: K. COLVIN

				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Line No.	FERC Account	Description	Reference Schedule	Total Company	Non-Regulated or Non-Electric	Known and Measurable Changes	Company Total Electric	FF #	Functionalization Factor Name	Allocation to Texas	TRAN	DIST	MET	TDCS	Total	CHECK
1	Intangible Plant - Gross			II-B-1												
2	30302	Misc Intangible Plant - NMF S/W		36,348,183	-	-	36,348,183	23	E30302	36,348,183	5,161,052	9,398,789	10,523,661	11,264,681	36,348,183	-
3	30302-5	Intangible EFM Equipment (5 Yrs)		45,384,489	-	-	45,384,489	23	E30302	45,384,489	6,414,110	11,735,366	13,139,886	14,065,126	45,384,489	-
4	30302-7	Intangible EFM Equipment (7 Yrs)		29,554,348	-	-	29,554,348	23	E30302	29,554,348	4,196,400	7,642,063	8,556,685	9,159,200	29,554,348	-
5	30302-10	Intangible EFM Equipment (10 Yrs)		251,796,581	-	-	251,796,581	23	E30302	251,796,581	35,752,411	65,108,702	72,901,084	78,034,384	251,796,581	-
6	30302-15	Intangible EFM Equipment (15 Yrs)		138,568,356	-	-	138,568,356	23	E30302	138,568,356	19,675,219	35,830,533	40,118,826	42,943,777	138,568,356	-
7																
8	Subtotal			501,651,957	-	-	501,651,957			501,651,957	71,229,192	129,715,454	145,240,142	155,467,168	501,651,957	-
9																
10	Transmission Plant - Gross															
11	35001	Land and Land Fees		62,419,686	-	(1,408)	62,419,278	25	E35001	62,419,278	61,153,174	1,266,104	-	-	62,419,278	-
12	35002	Land and Land Rights		156,064,253	-	(2,868)	156,061,386	26	E35002	156,061,386	156,059,432	1,953	-	-	156,061,386	-
13	35201	Structures and Improvements		241,905,202	-	(65,241)	241,839,961	27	E35201	241,839,961	230,714,900	11,125,061	-	-	241,839,961	-
14	35301	Station Equipment		1,415,971,496	-	(269,279)	1,415,702,217	28	E35301	1,415,702,217	1,288,556,961	127,145,256	-	-	1,415,702,217	-
15	35401	Towers and Fixtures		1,710,821,995	-	(265,730)	1,710,821,995	29	E35401	1,710,821,995	1,710,821,995	-	-	-	1,710,821,995	-
16	35501	Poles, Towers and Fixtures		186,913,450	-	(34,610)	186,878,840	30	E35501	186,878,840	186,878,840	-	-	-	186,878,840	-
17	35601	Overhead Conductors and Devices		1,210,675,927	-	(126,341)	1,210,675,927	31	E35601	1,210,675,927	1,210,675,927	-	-	-	1,210,675,927	-
18	35701	Underground Conduit		38,232,025	-	-	38,232,025	32	E35701	38,232,025	38,232,025	-	-	-	38,232,025	-
19	35801	Underground Conductors and Devices		16,475,502	-	(5,845)	16,475,502	33	E35801	16,475,502	16,475,502	-	-	-	16,475,502	-
20	35901	Roads and Trails		565,556,164	-	(327,144)	565,556,164	34	E35901	565,556,164	565,556,164	-	-	-	565,556,164	-
21																
22	Subtotal			5,605,759,760	-	(1,096,466)	5,604,663,294			5,604,663,294	5,465,124,920	139,538,374	-	-	5,604,663,294	-
23																
24	Distribution Plant - Gross			II-B-1												
25	36001	Land Owned in Fee		145,213,571	-	(44,744)	145,213,571	35	E36001	145,213,571	43,797,231	101,416,340	-	-	145,213,571	-
26	36002	Land and Land Rights		1,359,395	-	(350)	1,359,395	36	E36002	1,359,395	74,005	1,285,390	-	-	1,359,395	-
27	36101	Structures and Improvements		164,501,514	-	(41,544)	164,501,514	37	E36101	164,501,514	54,883,443	109,618,070	-	-	164,501,514	-
28	36201	Station Equipment		1,543,248,835	-	(284,934)	1,543,248,835	38	E36201	1,543,248,835	551,334,297	991,914,538	-	-	1,543,248,835	-
29	36401	Poles, Towers & Fixtures		1,397,481,413	-	(488,763)	1,397,481,413	39	E36401	1,397,481,413	-	1,397,481,413	-	-	1,397,481,413	-
30	36501	Overhead Conductors and Devices		1,454,203,536	-	(365,007)	1,454,203,536	40	E36501	1,454,203,536	-	1,454,203,536	-	-	1,454,203,536	-
31	36601	Underground Conduits		787,317,724	-	(109,473)	787,317,724	41	E36601	787,317,724	-	787,317,724	-	-	787,317,724	-

32	36701	Underground Conductors and Devices	1,468,449,995	-	(253,611)	1,468,196,384	42	E36701	1,468,196,384	-	1,468,196,384	-	-	1,468,196,384	-
33	36801	Line Transformers	1,999,539,465	-	(620,515)	1,998,918,950	43	E36801	1,998,918,950	-	1,998,918,950	-	-	1,998,918,950	-
34	36901	Services	256,120,152	-	(37,536)	256,082,616	44	E36901	256,082,616	-	256,082,616	-	-	256,082,616	-
35	37001	Meters	81,476,042	-	(5,894)	81,470,149	45	E37001	81,470,149	-	-	81,470,149	-	81,470,149	-
36	37003	Automated Meters	256,502,384	-	(61,802)	256,440,582	46	E37003	256,440,582	-	-	256,440,582	-	256,440,582	-
37	37101	Install. on Customer Prem.	0	-	-	0		NA	0	-	-	-	-	-	0
38	37301	Street Lighting and Signal Systems	770,277,087	-	(86,491)	770,190,596	47	E37301	770,190,596	-	770,190,596	-	-	770,190,596	-
39	37302	Security Lighting	14,830,396	-	(1,687)	14,828,709	47	E37301	14,828,709	-	14,828,709	-	-	14,828,709	-
40	37401	Security Lighting	290	-	(290)	-	47	E37301	-	-	-	-	-	-	-
41	37403	Asset Retirement Cost Dist. Plant	17,812,110	-	(17,812,110)	-		DA	-	-	-	-	-	-	-
42															
43	Subtotal		10,359,668,727	-	(20,214,754)	10,339,453,973			10,339,453,973	650,088,976	9,351,454,266	337,910,731	-	10,339,453,973	0
44															
45	TOTAL INT, TRAN, DIST PLANT-GROSS		16,467,080,444	-	(21,311,221)	16,445,769,223			16,445,769,223	6,186,443,088	9,620,708,094	483,150,873	155,467,168	16,445,769,223	0
46	TOTAL TRAN, DIST PLANT-GROSS		15,965,428,487	-	(21,311,221)	15,944,117,267			15,944,117,267	6,115,213,896	9,490,992,640	337,910,731	-	15,944,117,267	0

TCUC 2-26

Year	Month	Res	SVS	Year End Customer Count				MLS	SLS	TVS	TOTAL	GROWTH
				SVL - Non IDR	SVL-IDR	PVS-Non IDR	PVS-IDR					
2018	12	2,198,225	148,123	134,120	3,742	413	586	12,698	5,100	204	2,503,211	
2019	12	2,243,188	151,254	134,844	3,788	407	598	12,229	5,226	207	2,551,741	1.9%
2020	12	2,303,315	152,854	138,589	3,831	420	600	11,837	5,330	218	2,616,994	2.6%
2021	12	2,359,168	154,578	142,056	3,885	418	610	11,460	5,417	223	2,677,815	2.3%
2022	12	2,402,329	153,597	145,458	3,943	414	624	11,035	5,547	233	2,723,180	1.7%
2023	12	2,455,309	155,776	147,146	4,024	402	645	10,660	5,654	233	2,779,849	2.1%
2018-23 GROWTH		11.7%	5.2%	9.7%	7.5%	-2.7%	10.1%	-16.0%	10.9%	14.2%	11.1%	
AVG GRW/YR		2.3%	1.0%	1.9%	1.5%	-0.5%	2.0%	-3.2%	2.2%	2.8%	2.2%	

The following files are not convertible:

56211 Workpapers to the Direct
Testimony & Attachments of Scott Norwood_native files.xlsx

Please see the ZIP file for this Filing on the PUC Interchange in order to access these files.

Contact centralrecords@puc.texas.gov if you have any questions.