



Control Number: 49421



Item Number: 221

Addendum StartPage: 0

SOAH DOCKET NO. 473-19-3864
PUC DOCKET NO. 49421

FILED
2019 MAY 15 PM 2:48
PUC DOCKET
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APPLICATION OF CENTERPOINT § BEFORE THE STATE OFFICE
ENERGY HOUSTON ELECTRIC, LLC § OF
FOR AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS

May 16, 2019

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CenterPoint Energy Houston Electric, LLC
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Houston, Texas 77002
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**CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864**

**CITY OF HOUSTON
REQUEST NO.: COH08-01**

QUESTION:

Vegetation Management:

Please refer to the table on WP RMP-1, page 2 of 3, and provide the data included in this table by month for 2018.

ANSWER:

See attachment COH08-01 Costs by Month.xlsx for the data included on the table for the year 2018.

SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-01 Costs by Month.xlsx

Dollars in millions

Program Description	Jan	Feb	Mar	Apr	May	Jun
Proactive Tree Trimming*	2.08	3.04	2.66	2.46	2.42	2.01
Hazard Tree Removal **	0.02	0.06	0.06	0.05	0.08	0.03
Unplanned Hazard Tree Removal	0.01	0.02	0.02	0.03	0.04	0.02
Proactive Hazard Tree Removal	0.01	0.05	0.04	0.02	0.03	0.01
Subtotal for Proactive Trimming & Hazard Trees	2.10	3.10	2.72	2.51	2.50	2.04
Reactive Tree Trimming	0.31	0.44	0.38	0.19	0.65	0.50
Total Proactive Trimming, Hazard Trees & Reactive	2.41	3.54	3.10	2.70	3.15	2.54

Dollars in millions

Program Description	Jul	Aug	Sep	Oct	Nov	Dec	2018 Actual
Proactive Tree Trimming*	2.47	2.33	2.33	2.02	1.99	2.22	28.02
Hazard Tree Removal **	0.03	0.03	0.06	0.07	0.06	0.08	0.62
Unplanned Hazard Tree Removal	0.02	0.03	0.03	0.02	0.03	0.03	0.32
Proactive Hazard Tree Removal	0.00	0.00	0.02	0.05	0.02	0.04	0.30
Subtotal for Proactive Trimming & Hazard Trees	2.50	2.36	2.38	2.09	2.05	2.30	28.64
Reactive Tree Trimming	0.44	0.69	0.75	0.54	0.88	0.61	6.38
Total Proactive Trimming, Hazard Trees & Reactive	2.94	3.05	3.14	2.62	2.93	2.91	35.02

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

**CITY OF HOUSTON
REQUEST NO.: COH08-02**

QUESTION:

Vegetation Management:

Please refer to the table on WP RMP-1, page 2 of 3, and provide copies of work orders for proactive tree trimming in 2018.

ANSWER:

Copies of the work orders for proactive tree trimming for 2018 are being provided via a flash drive and are available for viewing in the Austin office. There are 3,465 work orders, each with two pages, for a total of 6,930 pages that are contained in 11 pdf files.

The requested information is voluminous and will be provided to the propounding party only in electronic format on flash drive. Please contact Alice Hart at (713) 207-5322 to request a copy of the flash drive. Please see the attached index "COH08-02 Index for Attachment 1 - Attachment 11.xlsx" which provides a list of the work order numbers for each of the 11 pdf files.

SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-02 Index for Attachment 1 – Attachment 11.xlsx

Attachment 1	Attachment 2	Attachment 3	Attachment 4	Attachment 5	Attachment 6	Attachment 7	Attachment 8	Attachment 9	Attachment 10	Attachment 11
84706840	86574938	84690237	84944107	84946302	84948945	84948213	83723033	84691365	84696490	84705332
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84706831	84508062	80766853	84944095	84946315	84948937	84948290	83723024	84691359	84696539	84705372
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84706957	84508089	87314088	84700649	84946396	84948973	84949131	86575183	84691624	84696492	84705416
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84707006	83795744	87314145	84700799	83722914	84946820	84948367	84949181	84691882	85852723	84705534
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84707233	84689987	87314329	87282788	84865818	84948985	84865894	84948910	81042126	84697162	84701230

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84707236	84689986	87314330	84700916	84865820	84949050	84865901	84948920	81042152	84697160	84701226
84707231	84689983	87314345	84700917	84865816	84949049	84865895	84948913	81042149	84697157	84701228
84707238	84690009	87314347	84700914	84865891	84948988	84865898	84948923	81042122	84697168	84701224
84862282	84689978	87314338	84700912	84865892	84948986	84865900	84948911	81042161	84697166	84701245
84862283	84689985	87314344	84700911	84865828	84948987	84865896	84948918	81042125	84697153	84701246
84862277	84689988	87314339	84700909	84865825	85853672	84865893	84948916	81042176	84697150	84701244
84862278	84689975	87314342	84700951	84865823	85853673	84865899	84948912	81042170	84697161	84701234
84862279	84689980	87314399	84700954	84865824	85853543	84865897	84948915	81042172	84697163	84701237
84862275	84689982	87314402	84700926	84865889	85853545	84948541	84948914	81042174	84697167	84701235
84862276	84689979	87314398	84700924	84865827	85853542	84948542	84948921	81042162	84697211	84701238
84862281	84689977	87314397	84700922	84865826	85853538	84948531	84948922	81042167	84697209	84701241
84862280	84689976	84942837	84700927	84683243	85853670	84948533	84948917	81042155	84697210	84701242
84707244	84689972	84942838	84700950	84683244	85853547	84948535	84948934	81042151	84697223	84701239
84707245	84689981	84942832	84700919	84683239	85853537	84948537	84948935	81042157	84697225	84701297
84707242	84689973	84942835	84701012	84683240	85853671	84948536	84948927	81042178	84697222	84701298
84707241	83795887	84942830	84701014	84683241	85853539	84948539	84948929	81042180	84697221	84701296
84707243	83795888	84942766	84700959	84683242	85853546	84948538	84948930	84692205	84697217	84701293
84707274	83795875	84942767	84700962	84683238	85853540	84948532	84948928	84692207	84697219	84701248
84707275	83795879	84942764	84701011	84682478	85853541	84948534	84948932	84692186	84697215	84701289
84707247	83795872	84942768	84701009	84682479	85853544	84948540	84613737	84692181	84697220	84701291
84707272	83795870	87314434	84700967	84682476	85853669	84949145	84613738	84692185	84697262	84701295
84707248	83795883	87314436	84700961	84682473	84947272	84949146	84613732	84692203	84697263	84701350
84707270	83795874	87314432	84700965	84682474	84947273	84949143	84613644	84692192	84697251	84701352
84707273	83795869	87314433	84700958	84682471	84947228	84949141	84613730	84692180	84697256	84701299
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84707287	83795847	87314407	87282843	84682477	84947227	84949140	84613647	84692200	84697226	84701300
84707288	83795878	87314406	87282838	84682472	84947270	84949142	84613646	84692173	84697250	84701301
84707277	83795839	87314460	87282834	84682533	84949061	84949138	84613648	84692195	84697249	84701307
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84707283	83795843	87314446	87282835	84682484	84949054	84948545	84613731	84692148	84697268	84701304
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84707286	83795840	87314458	87282841	84682532	84949056	84948544	84613736	84692176	84697266	84701349
84707276	83795881	87314456	87282840	84682488	84949060	84948543	84613786	84692242	84697265	84701308
84707280	83795873	87314440	87282849	84682480	84949059	84948556	84613787	84692244	84697334	84701491
84707282	83795848	87314455	87282850	84682529	84949057	84948557	84613775	84692229	84697335	84701492
84707279	83795841	87314453	87282847	84682486	84949053	84948555	84613777	84692234	84697331	84701488
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81056042	84690023	80768864	87282852	84682530	84947276	84948553	84613779	84692233	84697336	84701490
81056089	84690024	80768696	87282854	84682573	84947435	84948554	84613781	84692289	84704944	84701362
81056093	84690017	80768763	87282851	84682574	84947440	84948552	84613784	84692292	84704945	84701363
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84707342	84690248	80768792	84701021	84682572	84947283	84948559	84613829	84692275	84704936	84701353
84707337	84690249	80768605	84701017	84941559	84947408	84948562	84613830	84692247	84704942	84701359
84707340	84690246	80768603	84701059	84941562	84947280	84948560	84613831	84692287	84704941	84701361
84707335	84690247	80768607	84701060	84941551	84947446	84683300	84613835	84692284	87282868	84701360
84707336	84690245	80768592	84701028	84941525	84947447	84683302	84613839	84692270	87282889	84701370
84707338	84690239	80768507	84701027	84941549	84947443	84683299	84613838	84692277	87282866	84701371
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84707374	84690059	84943297	83722896	84941514	84947735	84948568	84613914	84692299	87282864	84701364
84707375	84690060	84943299	83722897	84941553	84947737	84948567	84613844	84692312	87282865	84701368
84707348	84690050	84943292	83722895	84941511	84947733	84948611	84613848	84692305	84705060	84701504
84707347	84690025	84943290	83722891	84941556	84947732	84948609	84613909	84692307	84705061	84701506

Attachment 1	Attachment 2	Attachment 3	Attachment 4	Attachment 5	Attachment 6	Attachment 7	Attachment 8	Attachment 9	Attachment 10	Attachment 11
84707345	84690055	84943168	83722868	84941516	84947729	84948610	84613911	84692294	84705056	84701498
84707343	84690052	84943289	83722866	84694286	84947730	84948566	84613843	84692306	84705059	84701496
84707373	84690056	84943293	83722893	84694287	84947448	84948622	84613846	84692296	84705055	84701494
84707346	84690049	84943166	83722892	84694283	84947736	84948623	81021707	84692295	84705058	84701495
84707372	84690051	84943167	80768118	84694278	84947734	84948621	81021708	84692303	84705057	84701493
84707370	84690026	84943308	80768121	84694202	84947969	84948615	81021690	84692300	84705094	84701499
84707344	84690053	84943369	80768115	84694281	84947970	84948619	81021699	84692304	84705095	84701497
84707382	84690054	84943300	80768113	84694277	84947745	84948617	81021665	84692297	84705063	84701501
84707384	84690027	84943307	80768083	84694366	84947746	84948620	81021689	84692346	84705092	84701502
84707376	84690057	84943303	80768079	84694368	84947740	84948618	81021693	84692347	84705093	84701379
84707379	84690067	84943302	80768077	84694360	84947741	84865936	81021701	84692332	84705090	84701380
84707377	84690068	86574917	80768071	84694316	84947742	84865937	81021702	84692345	84705067	84701374
84707380	84690062	86574918	80768111	84694350	84947743	84865932	81021691	84692344	84705062	84701377
84707381	84690066	86574860	80768109	84694355	84947744	84865930	81021662	84692336	84705066	84701376
84707388	84690061	86574861	80768075	84694351	84947747	84865933	81021692	84692342	84705089	84701373
84707449	84690063	86574862	81020969	84694357	84947748	84865907	81021667	84692333	84705177	84701375
84707386	84690065	86574909	81021091	84694312	84948129	84865935	81021663	84692335	84705178	84701372
84707385	83795905	86574915	81021093	84694362	84948130	84865906	81021703	84692338	84705103	84701378
84707387	83795906	86574914	81021065	84694325	84947986	84865904	81021696	84692339	84705176	84701430
84707457	83795904	86574913	81021090	84694321	84947988	84865929	81021704	83795896	84705108	84701431
84707458	83795903	86574865	81021058	84694314	84947983	84865934	84613970	83795897	84705104	84701381
84707452	83795899	86574911	81021067	84694320	84947985	84683340	84613971	83795894	84705102	84701382
84707454	83795901	86574864	81021057	84694326	84947979	84683342	84613917	83795893	84705107	84701385
84707456	83795900	86574916	81021064	84694396	84947981	84683335	84613918	83795892	84705106	84701387
84707455	83795898	86574930	81021063	84694399	84947976	84683331	84613915	83795890	84705105	84701386
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84707451	84690253	86574926	81021060	84694406	84947973	84683336	84613916	84692382	84705171	84701388
84707979	84690252	86574919	81020988	84694408	84947975	84683308	84613926	84692374	84705174	84701438
84707980	84690250	86574922	81021049	84694401	84947982	84683337	84613969	84692376	84705173	84701439
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Attachment 1	Attachment 2	Attachment 3	Attachment 4	Attachment 5	Attachment 6	Attachment 7	Attachment 8	Attachment 9	Attachment 10	Attachment 11
84707978	84690254	86574928	81021052	84694482	84948137	84683307	84613923	84692378	84705188	84701434
84707976	84690104	86574927	81021050	84694485	84948138	84683330	84613919	84692348	84705229	84701435
84707977	84690105	86574924	81021053	84694456	84948136	84683332	84614025	84692369	84705182	84701436
84707569	84690102	84943379	81021062	84694472	84948131	84948671	84614026	84692380	84705185	84701437
84707570	84690103	84943380	80712672	84694473	84948132	84948672	84614009	84692379	84705187	84701534
84707466	84690090	84943378	81021118	84694459	84948133	84948626	84613981	84692370	84705180	84701538
84707467	84690097	84943376	81021121	84694453	84948135	84948627	84613980	84692371	84705181	84701508
84707462	84690089	84943374	81021094	84694451	84948189	84948628	84614012	84692490	84705183	84701530
84707465	84690092	84943372	81021106	84694449	84948190	84948670	84614019	84692491	84705186	84701532
84707460	84690096	84943370	81021107	84694462	84948147	84948624	84614020	84692448	84705184	84701446
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84707578	84690095	84943471	81021109	84694470	84948145	84948625	84613978	84692442	84705273	84701445
84707574	84690099	84943472	81021096	84694465	84948148	84683375	84614023	84692386	84705236	84701442
84707573	84690100	84943469	81021110	84694477	84948139	84683377	84614024	84692387	84705248	84701443
84707575	84690098	84943383	81021111	84694458	84948141	84683347	84613973	84692388	84705243	84701440
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81056295	84690107	84943388	81021116	84694979	84948196	84683372	84614018	84692438	84705238	84701473
81056292	84690109	84943384	81021184	84694981	84948191	84683344	84614021	84692439	84705239	84701448
81056298	84690108	84943593	81021187	84694973	84948192	84683343	84613972	84692447	84705269	84701472
84707609	84690110	84943594	81021134	84694968	84948193	84683370	84613985	84692446	84705244	84701471
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84707582	87341980	84943591	81021144	84694976	84949067	84948674	84613977	84692383	85192993	84681878
84707585	87341974	84943482	81021173	84694969	84949068	84948681	84614185	84692384	85192998	84681879
84707583	87341977	84943483	81021182	81021324	84949063	84948682	84614186	84692430	85193005	84681874
84707580	87341978	84943484	81021141	81021325	84949064	84948677	84614174	84692432	85193001	84681873
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84707987	87341975	84943487	81021124	81021322	84948207	84948715	84614178	84692440	84705818	84681875
84707982	84690166	84943589	81021127	81021318	84948208	84948717	84614179	81042965	84705810	84681876
84707981	84690167	84943849	81021136	81021323	84948205	84948712	84614180	81042967	84705811	84681869
84707984	84690163	84943851	81021146	81021320	84948204	84948688	84614105	81042962	84705813	84681877
84707985	84690164	84943746	81021148	81021316	84948202	84948711	84614106	81042953	84705814	84681871
84707983	83795961	84943748	81021176	81021314	84948203	84948686	84614107	81042961	84705815	84681963
87283276	83795962	84943890	81021126	84695020	84948206	84948685	84614183	81042959	85853487	84681964
87283278	83795952	84943891	81021181	84695023	84948200	84948683	84614108	81042956	85853488	84681953
87283264	83795949	84943852	80712939	84694983	84948201	84948684	84614181	81042950	85853475	84681954
87283266	83795959	84943867	81021311	84695005	85853167	84948687	84614169	81042952	85853484	84681955
87283270	83795960	84943861	81021313	84694998	85853168	84948714	84614170	81042948	85853473	84681962
87283271	83795957	84943857	81021246	84694993	85853166	84948710	84614184	81042960	85853228	84681961
87283273	83795950	84943868	81021243	84695001	85853164	84948713	84614172	81042963	85853485	84681956
87283267	83795954	84943865	81021237	84695009	85853161	84948724	84614173	81042954	85853472	84681950
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87283274	83795951	84943862	81021242	84695016	85853160	84948718	81021841	84167744	85853477	84681951
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84707722	83795953	84943900	81021238	84694995	85941220	84948722	81021831	84167740	85853486	84681883
84707715	83795907	84943901	81021241	84694988	85941223	84948723	81021838	84167741	85853470	84681960
84707718	84690213	84943896	81021240	81021491	85941164	84948719	81021766	84167739	85853482	84681958
84707714	84690214	84943892	81021309	81021492	85941168	84948732	81021834	84167742	85853483	84681880
84707719	84690209	84943899	81021310	84694618	85941219	84948733	81021767	84508763	85853479	84681884
84707720	84690210	84943898	80716126	84694620	85941210	84948729	81021768	84508764	85853469	84681886
84707716	84690212	84943895	80716127	84694573	85941151	84948731	81021836	84508761	85853474	84681959
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84707727	84690211	84943894	80716119	84694581	85941159	84948728	81021833	84508758	84168051	84681957
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84707725	84690221	84943903	80716124	84694578	85941162	84948747	81021900	81034214	84167746	84682110

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84707723	84690219	84943902	80716123	84694571	85941214	84948748	81021902	81034216	84168050	84682111
84707726	84690217	84943906	80716121	84694613	85941157	84948739	81021847	81034210	84167747	84682068
84707832	84690215	84943904	80716125	84694586	85941212	84948741	81021891	81034168	84168049	84682065
84707833	84690218	84944014	80716109	84694568	85941167	84948744	81021899	81034212	83970698	84682066
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84707807	84690224	84944011	80716112	84694855	85941153	84948746	81021892	81034211	83970685	84682109
84707796	84690222	84944055	80715987	84694631	85941217	84948734	81021846	81034161	83970683	87285088
84707800	84690225	84944057	80716120	84694632	85941156	84948745	81021895	81034164	83970694	87285189
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84707794	84690233	84944026	80713187	84694646		84948738	81021848	84683229	83970693	87285087
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84707805	87283438	84868501	80713178	84694949		84948789	84614271	84682623	84508751	85853151
84707806	87283439	84868499	80713171	84694938		84948794	84614199	84682622	84508753	85853153
84707839	87283433	84868497	80713170	84694868		84948793	84614200	84682620	84508607	85853150
84707840	87283437	84868496	80713169	84694865		84948795	84614201	84682621	84508754	85853154
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84707837		84944068	80713174	84694863		84948800	84614205		84681585	85853157
84707834		84944090	80713107	84694861		84948804	84614206		84681586	85853155
84689834		84944064	80713183	84694859		84948798	84614207		84681583	84682298
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84689832		84944062	80713184	84694954			84614269		84681579	84682293

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84689848		84944066		84694856			84614189		84681581	84682291
84689849				84694939			84614190		84681580	84682289
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84689842							84614193		84681575	84682295
84689836							84614194		84681573	84682297
84689847							84614195		84681584	84682296
84689837							84614196		84681832	84682469
84689844							84614197		84681833	84682470
84689839							84691413		84681587	84682387
84689841							84691415		84681588	84682386
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84689843									84681829	84682383
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84689864									84681737	
84689865									84681736	
84689862									84681730	
84689857									84681745	
84689861									84681739	
84689860									84681734	
84689856									84681740	
84689858									84681741	
84689859									84681830	
84689876									84681743	
84689877									84681746	
84689875									84681744	

SOAH DOCKET NO. 473-19-3864

PUC Docket No. 49421

COH08-02 Index for Attachment 1 - Attachment 11.xls

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84689874									84681742	
84689873									84681747	

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

**CITY OF HOUSTON
REQUEST NO.: COH08-03**

QUESTION:

Vegetation Management:

Please refer to the table on WP RMP-1, page 2 of 3, and provide the data included on this table separately for transmission and distribution.

ANSWER:

All of the data included on this table is distribution. There is no transmission data.

SPONSOR (PREPARER):

Randal Pryor (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.: COH08-04**

QUESTION:

Vegetation Management:

Please refer to the table on WP RMP-1, page 2 of 3, and provide the miles of transmission and distribution lines trimmed each year from 2011 through 2018.

ANSWER:

The miles of distribution lines trimmed each year from 2011 through 2018 is shown below. Consistent with a clarification received by counsel for the City of Houston, this response includes data only for distribution.

Year	2011	2012	2013	2014	2015	2016	2017	2018
Miles	5,606	4,328	5,074	5,139	4,662	4,437	3,922	5,357

SPONSOR (PREPARER):

Randal Pryor (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.: COH08-05**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Randal M. Pryor ("Pryor"), page 38, lines 18 through 22, and provide tree trimming expenditure associated with capital improvements each year from 2011 through 2018.

ANSWER:

The tree trimming expenditures associated with capital improvements for each year from 2011 through 2018 is provided in the table below.

Year	Distribution Tree Trimming Associated w/ Capital Improvements
2011	\$740,000
2012	\$1,090,000
2013	\$1,524,579
2014	\$2,680,000
2015	\$4,351,065
2016	\$1,699,859
2017	\$2,758,510
2018	\$1,681,349

SPONSOR (PREPARER):

Randal Pryor (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.: COH08-06**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Mr. Prior, page 38, lines 15 through 18, and provide a map in electronic format showing the eight vegetation management regions and identifying the name or other nomenclature used to identify the region.

ANSWER:

See attachment COH08-06 Map of Eight Regions.pdf.

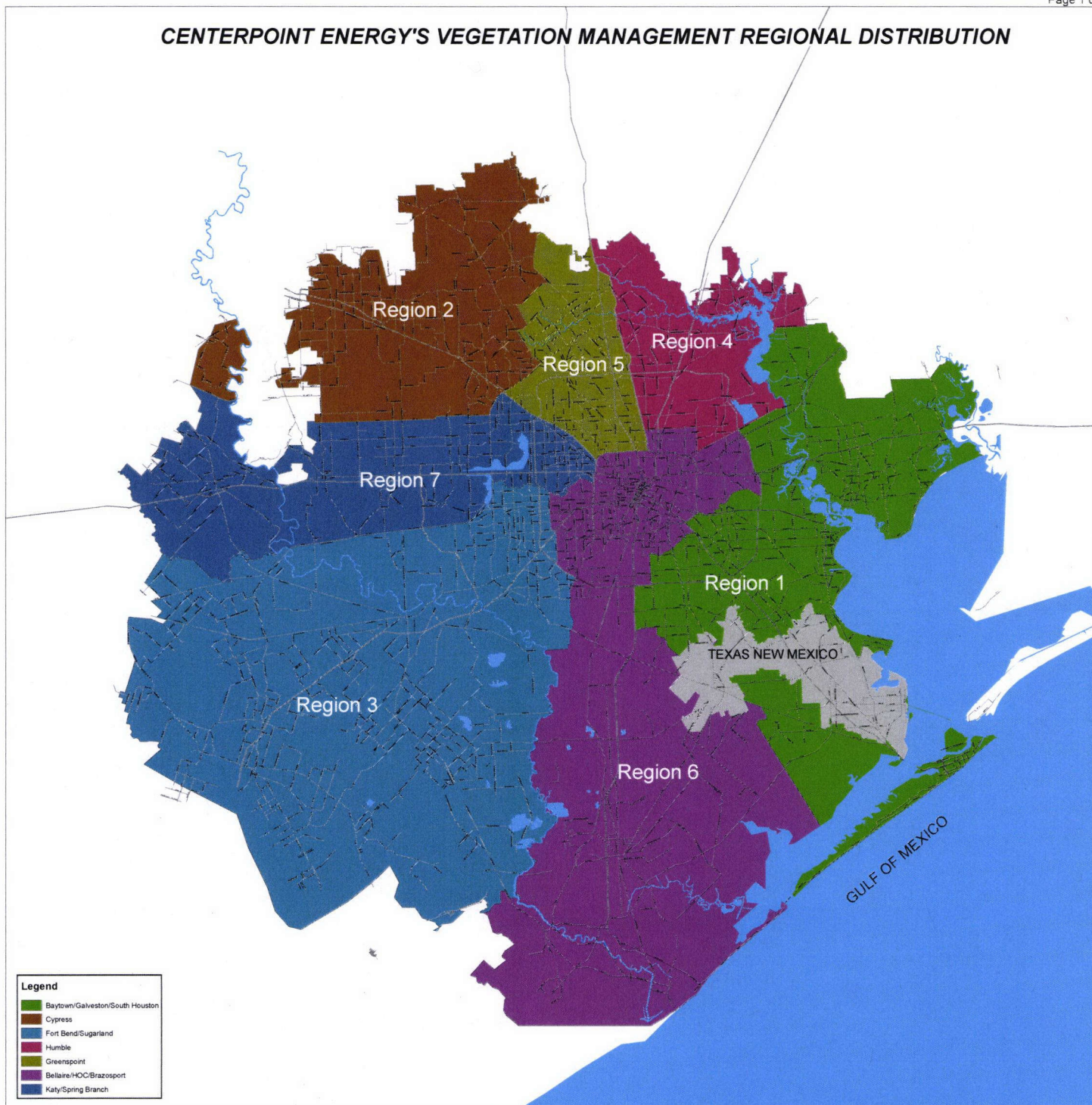
SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-06 Map of Eight Regions.pdf

CENTERPOINT ENERGY'S VEGETATION MANAGEMENT REGIONAL DISTRIBUTION



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

**CITY OF HOUSTON
REQUEST NO.: COH08-07**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Mr. Prior, page 38, lines 15 through 18, and provide the tree trimming costs for each of the eight regions identified in the previous question for each year, 2011 through 2016, in the format of the table on WP RMP-1, page 2 of 3.

ANSWER:

CEHE did not bid tree trimming work on a region basis or on a service area basis in 2011-2016. The work was bid and awarded one circuit at a time for proactive trimming. The contractors worked in many different geographic areas and the work was not tracked by Region or Service Area. We do not have any reports for these years and the information is not available.

SPONSOR (PREPARER):

Randal Pryor (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.: COH08-08**

QUESTION:

Storm Damages:

Please provide the storm damages for the eight regions identified in the second previous question for each year 2011 through 2018.

ANSWER:

Please see response to COH08-11.

SPONSOR (PREPARER):

Kristie Colvin/Randal Pryor (Kristie Colvin/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.: COH08-09**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Mr. Prior, page 43, lines 6 through 9, and provide a map in electronic format showing the seven vegetation management regions and identifying the name or other nomenclature used to identify the region.

ANSWER:

See attachment COH08-09 Map of Seven Regions.pdf.

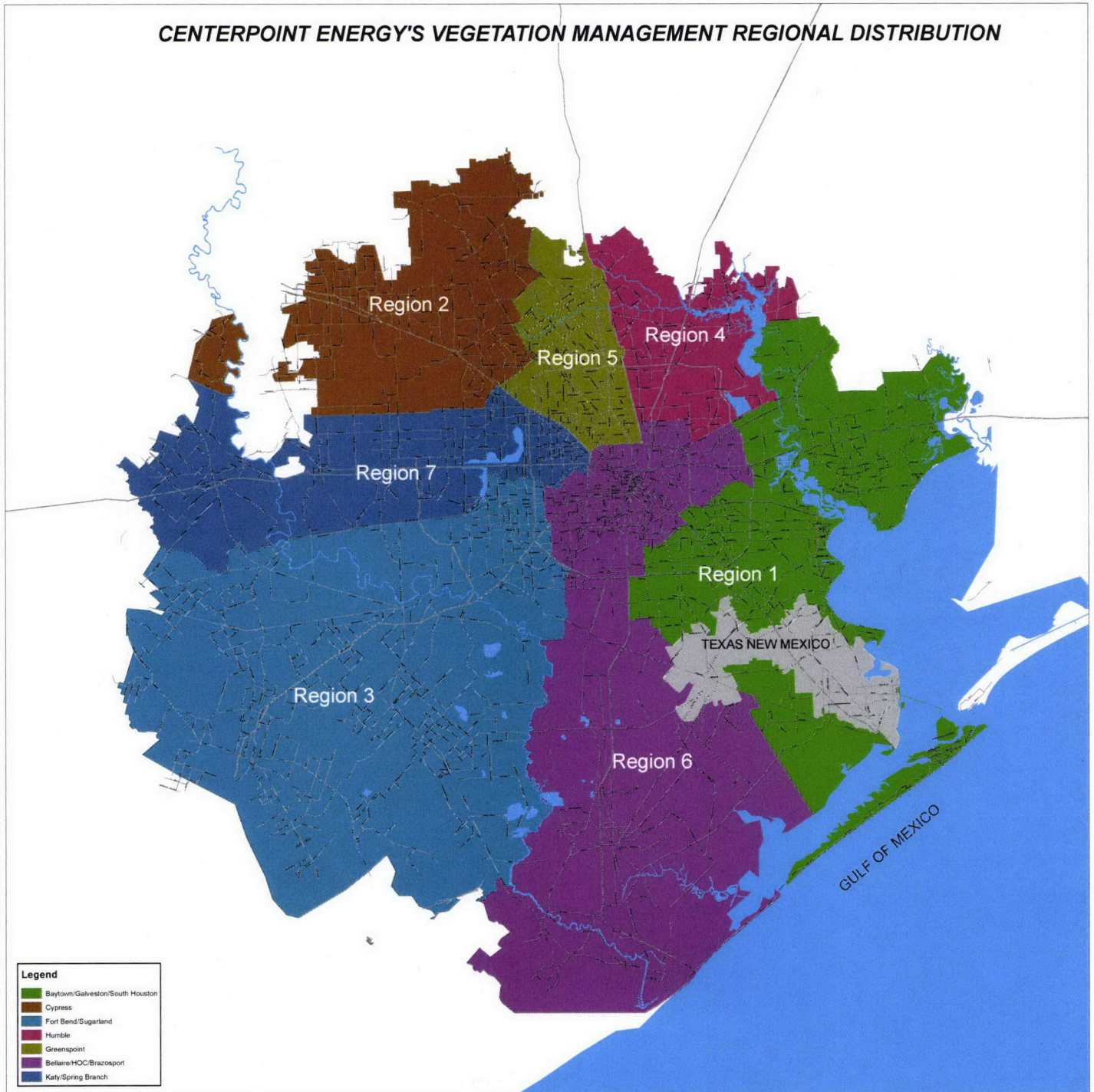
SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-09 Map of Seven Regions.pdf

CENTERPOINT ENERGY'S VEGETATION MANAGEMENT REGIONAL DISTRIBUTION



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

**CITY OF HOUSTON
REQUEST NO.: COH08-10**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Mr. Prior, page 43, lines 6 through 9, and provide the tree trimming costs for each of the seven regions identified in the previous question for each year, 2017 and 2018, in the format of the table on WP RMP-1, page 2 of 3.

ANSWER:

See attachment COH08-10 Costs by Region Attachment 1.xlsx for the tree trimming costs for the seven regions in 2017 and the eight regions in 2018 in the format of the table on WP RMP-1.

SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-10 Costs by Region Attachment 1.xlsx

COH 8-10 Costs by Region Attachment 1.xlsx

2017 Dollars in millions	Region							2017
Program Description	1	2	3	4	5	6	7	Total
Proactive Tree Trimming*	\$ 3.48	\$ 2.48	\$ 2.21	\$ 3.82	\$ 2.74	\$ 4.79	\$ 2.21	21.73
Hazard Tree Removal **	\$ 0.07	\$ 0.14	\$ 0.04	\$ 0.10	\$ 0.06	\$ 0.13	\$ 0.07	0.61
Unplanned Hazard Tree Removal	\$ 0.05	\$ 0.04	\$ 0.02	\$ 0.02	\$ 0.02	\$ 0.09	\$ 0.06	0.30
Proactive Hazard Tree Removal	\$ 0.03	\$ 0.10	\$ 0.02	\$ 0.08	\$ 0.04	\$ 0.04	\$ 0.00	0.31
Subtotal for Proactive Trimming & Hazard Trees	\$ 3.56	\$ 2.62	\$ 2.24	\$ 3.93	\$ 2.80	\$ 4.93	\$ 2.27	22.34
Reactive Tree Trimming	\$ 0.95	\$ 0.57	\$ 0.83	\$ 0.21	\$ 0.61	\$ 1.76	\$ 0.64	5.56
Total Proactive Trimming, Hazard Trees & Reactive	\$ 4.50	\$ 3.19	\$ 3.08	\$ 4.13	\$ 3.40	\$ 6.68	\$ 2.91	27.90

2018 Dollars in millions	Region								2018
Program Description	1	2	3	4	5	6	7	8	Total
Proactive Tree Trimming*	\$ 2.12	\$ 2.32	\$ 4.79	\$ 3.56	\$ 3.33	\$ 4.91	\$ 4.27	\$ 2.72	28.02
Hazard Tree Removal **	\$ 0.05	\$ 0.13	\$ 0.03	\$ 0.14	\$ 0.10	\$ 0.04	\$ 0.10	\$ 0.05	0.62
Unplanned Hazard Tree Removal	\$ 0.04	\$ 0.04	\$ 0.02	\$ 0.07	\$ 0.03	\$ 0.03	\$ 0.07	\$ 0.02	0.32
Proactive Hazard Tree Removal	\$ 0.01	\$ 0.08	\$ 0.01	\$ 0.06	\$ 0.07	\$ 0.01	\$ 0.03	\$ 0.03	0.30
Subtotal for Proactive Trimming & Hazard Trees	\$ 2.17	\$ 2.45	\$ 4.82	\$ 3.70	\$ 3.42	\$ 4.95	\$ 4.37	\$ 2.77	28.64
Reactive Tree Trimming	\$ 0.68	\$ 0.68	\$ 0.66	\$ 1.01	\$ 0.99	\$ 1.39	\$ 0.54	\$ 0.42	6.38
Total Proactive Trimming, Hazard Trees & Reactive	\$ 2.85	\$ 3.13	\$ 5.48	\$ 4.71	\$ 4.41	\$ 6.34	\$ 4.91	\$ 3.19	35.02

* Proactive Tree Trimming includes circuit trim, beneficial removals in easement & hazard tree removals that are found in the course of the circuit trim.

** Hazard Tree Removal includes proactive hazard tree removal and unplanned hazard tree removal not associated with circuit trim

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

**CITY OF HOUSTON
REQUEST NO.: COH08-11**

QUESTION:

Storm Damages:

Please provide the storm damages for the seven regions identified in the second previous question for each year 2017 and 2018.

ANSWER:

CenterPoint Houston has not determined its storm damages by region. For storm damages booked to the Property Insurance Reserve each year for total CenterPoint Houston, please see RFP Schedule Workpaper WP II-B-7.1 Adj 2b. CenterPoint Houston has not determined the capitalized cost of storm damages, and it has not determined expense from storms which were too small to charge to the Property Insurance Reserve.

SPONSOR (PREPARER):

Randal Pryor/Kristie Colvin (Randal Pryor/Kristie Colvin)

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.: COH08-12**

QUESTION:

Vegetation Management:

Please refer the pre-filed Direct Testimony of Mr. Prior, page 42, lines 10 through 15. Has CenterPoint updated its storm hardening plan since 2011, either publicly or privately? If so, please provide a copy of the latest storm hardening plan.

ANSWER:

See attachment COH08-12 Storm Hardening Plan.docx for a copy of the 2019 PUC Report 25.95 Storm Hardening Plan Summary for CenterPoint Energy which was filed on May 1, 2019.

SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-12 Storm Hardening Plan.docx

PROJECT NO. 39339

REPORT FOR ELECTRIC UTILITY	§	PUBLIC UTILITY COMMISSION
INFRASTRUCTURE STORM	§	
HARDENING PURSUANT TO	§	OF TEXAS
16 TEX. ADMIN. CODE § 25.95	§	

**STORM HARDENING PLAN SUMMARY
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PURSUANT TO 16 TEX. ADMIN. CODE § 25.95**

Contact: Rebecca Zerwas
Telephone: 512-397-3047
Rebecca.Zerwas@CenterPointEnergy.com

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PROJECT NO. 39339

REPORT FOR ELECTRIC UTILITY	§	PUBLIC UTILITY COMMISSION
INFRASTRUCTURE STORM	§	
HARDENING PURSUANT TO	§	OF TEXAS
16 TEX. ADMIN. CODE § 25.95	§	

**STORM HARDENING PLAN SUMMARY
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PURSUANT TO 16 TEX. ADMIN. CODE § 25.95**

On April 29, 2011, CenterPoint Energy Houston Electric, LLC (“CenterPoint Energy” or “the Company”) submitted a summary describing the Company’s storm hardening plan over a five-year period beginning January 1, 2011. Pursuant to 16 Tex. Admin. Code § 25.95, CenterPoint Energy submits the following summary of material revisions to the storm hardening plan and a detailed summary of the Company’s progress in implementing the plan.

Respectfully submitted,

Rebecca Zerwas
Manager Regulatory Affairs
CenterPoint Energy Service Company LLC
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Austin, Texas 78701
(512) 397-3047
(512) 949-3050 (fax)
Rebecca.Zerwas@CenterPointEnergy.com

ATTACHMENT A

Storm Hardening Plan Summary
Submitted May 1, 2019

**STORM HARDENING PLAN SUMMARY
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC**

I. 16 Tex. Admin. Code § 25.95(e)(1)

Construction standards, policies, procedures, and practices employed to enhance the reliability of utility systems, including overhead and underground transmission and distribution facilities

There were no material revisions to the transmission and substation construction standards, policies, procedures, and practices employed to enhance the reliability of CenterPoint Energy's systems. Minor revisions include the following:

1. Beginning in 2012, new overhead distribution services were limited to transformer banks consisting of three transformers no larger than 167 kVA each. This decreases the exposure of large overhead transformer banks and thus should reduce the number of transformer replacements during a major storm event.
2. All new overhead distribution freeway crossings are built on concrete poles.
3. Beginning in 2017, for transmission facility designs, CenterPoint Energy used the design requirements in the latest National Electrical Safety Code ("NESC") C2 2017 edition, which replaced the NESC C2 2012 edition.
4. Substation equipment maintenance is performed during planned intervals in accordance with North American Electric Reliability Corporation ("NERC") requirements and based on criteria that may include manufacturer's recommendations, equipment history, and operational experience.
5. As part of the Company's Intelligent Grid project, on-line monitoring equipment was installed on selected power transformers to observe transformer conditions. The Company is not proactively installing transformer monitoring devices at non-Intelligent Grid locations, but all new transformers being purchased have a pre-installed monitoring device. The on-line monitoring information will assist in analyzing various temperature readings and in monitoring the cooling fans for the transformer. Microprocessor-based relay systems are also being installed on distribution feeders. These relays will provide timely information on substation circuit breaker health, feeder fault information, and overall performance.

6. Beginning in 2014, the Company began installing additional guy strains in down guy installations on wood poles that carry energized distribution equipment.
7. Beginning in 2013, the Company began a proactive Underground Residential Distribution (“URD”) Cable Life Extension Program (“CLEP”) to assess URD spans and determine effective life.

There were no other material revisions to the distribution construction standards, policies, procedures, and practices employed to enhance the reliability of CenterPoint Energy’s systems.

II. 16 Tex. Admin. Code § 25.95(e)(2)

Vegetation Management Plan for distribution facilities, including a tree pruning methodology and pruning cycle, hazard tree identification and mitigation plans, and customer education and notification practices related to vegetation management

16 Tex. Admin. Code § 25.96(c) (“TAC”) states that compliance with that section “fully satisfies the vegetation management planning and reporting requirements” of 16 TAC § 25.95(e)(2); therefore, this report does not contain information related to vegetation management.

III. 16 Tex. Admin. Code § 25.95(e)(3)

Plans and procedures to consider infrastructure improvements for its distribution system based on smart grid concepts that provide enhanced outage resilience, faster outage restoration, and/or grid self-healing

There were minor revisions to the Company’s plans and procedures to consider infrastructure improvements for its distribution system based on smart grid concepts that provide enhanced outage resilience, faster outage restoration, and grid self-healing. These changes include the installation of Intelligent Grid automation equipment and technology. Electromechanical distribution circuit relays were replaced with microprocessor-based relays at the 31 designated Intelligent Grid substations. Electromechanical relays are being replaced at other substations on an as-needed basis as they approach their end of life. Microprocessor-based relays are being installed on new distribution feeders. These relays will provide timely information on substation circuit breaker health, feeder fault information, and overall performance.

In March 2015, the Company installed an Advanced Distribution Management System for situational awareness and management of its distribution system infrastructure in real-time. The project leverages the management and control of CenterPoint Energy's Advanced Metering System ("AMS") project to support the installation of intelligent grid automation equipment and technology. Together, the AMS and intelligent grid equipment and technology should allow more efficient grid operation, increase grid reliability, and enable grid automated recovery and restoration. The Intelligent Grid is anticipated to limit the effects of power outages by detecting faulted circuits and automatically rerouting power to customers. The Intelligent Grid is expected to reduce the length of power outages.

In 2018, CenterPoint Energy installed 83 intelligent grid switching devices as part of normal distribution capacity, reliability, or line protection requirements. CenterPoint Energy continues to expand the intelligent grid in areas that achieve the greatest reliability impact.

CenterPoint Energy completed the installation of advanced meters on all of the Company's 2.2 million customer meters on July 1, 2012. In addition to the enhanced electric market operation, the advanced meters are capable of reporting power outages at customer premises instantaneously. CenterPoint Energy is using data analytics as a tool to process and filter meter data into operational metrics.

IV. 16 Tex. Admin. Code § 25.95(e)(4)

Plans and procedures to enhance post storm damage assessment, including enhanced data collection methods for damaged poles and fallen trees

CenterPoint Energy's plans regarding distribution post storm damage assessment includes a commitment to complete a detailed and thorough inspection of all system damage after a major storm. Such an assessment will provide additional information that has not been provided by a simple list of facilities that need to be repaired. Damage assessment data is the main factor that finalizes resource levels and is central information for planning and assigning work, determining additional material needs, determining and reporting estimated restoration dates, and documenting facility replacements for mapping records. CenterPoint Energy has established contracts with

multiple damage assessment contractors to ensure a timely, complete, and thorough assessment of system damage after a major storm.

There were no other material revisions to the Company's plans and procedures to enhance post storm damage assessment, including enhanced data collection methods for damaged poles and fallen trees.

V. 16 Tex. Admin. Code § 25.95(e)(5)

Transmission and distribution pole construction standards, pole attachment policies, and pole testing schedule

There were no material revisions to the Company's transmission and distribution pole construction standards and pole attachment policies or the transmission pole testing schedule. There were minor revisions to the Company's pole attachment policies. The Company uses its website (<http://www.centerpointenergy.com/services/andmore/poleattachments>) to provide any prospective attaching entity detailed information regarding CenterPoint Energy's pole attachment practices. This information is in manual form and can be downloaded from the website. Upon installation and from time to time thereafter, CenterPoint Energy may require any non-compliant attachment to be removed and re-attached properly at the sole cost and expense of the attaching entity.

CenterPoint Energy's proactive distribution Pole Maintenance Program provides that a portion of the distribution system poles be assessed annually by contract ground-line crews. Pole assessments include a visual and/or manual assessment. Visual pole assessments are comprised of a field observation for evidence of exterior decay or damage above the ground line. Poles that are seven years old or older are manually excavated and assessed for decay below the ground line, as well as sounded and bored to locate internal voids. Poles of sufficient strength to remain in service until the next scheduled assessment are treated and tagged. Poles that are identified for reinforcement during these assessments are either treated (with a fumigant or preservative, as necessary) and braced, or replaced.

The Pole Maintenance Program also includes visual assessment of guy wires, including checking for guy wires that are damaged, broken, frayed or slack, and assessment of guy strains and anchors.

As part of the grid hardening initiative, pole assessments and treatment have been accelerated, so approximately 10% of the Company's poles are assessed annually, on average, on a rolling ten-year cycle. As such, pole bracings and replacements will increase accordingly. Additional foreign poles containing Company facilities that may merit replacement by third parties are also identified.

VI. 16 Tex. Admin. Code § 25.95(e)(6)

Distribution feeder inspection schedule

In addition to the pole maintenance program discussed above, CenterPoint Energy utilizes four other programs that incorporate ground-based inspection programs of overhead distribution facilities. These programs are the Infra-Red Program, the Root Cause Analysis Program for the 10% Circuits, the Hot Fuse Program, and the Feeder Inspection Program. The only programs discussed below are those with material revisions.

(a) The Infra-Red Program

Infra-red technology allows the Company to see the heat generated by deteriorating components on the distribution system. These "Hot Spots" will eventually result in equipment failure and a loss of service. Infra-red technology provides a unique tool to find potential equipment outages before they occur, so that proactive repairs can be made prior to an outage. This program reduces the number of equipment failures and improves reliability by decreasing System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency Index ("SAIFI").

All circuits are inspected on an eight-year cycle. 77 benchmark circuits that are representative of the overall CNP system are inspected every two years to insure that the eight-year cycle is adequate to achieve the desired reliability results. If a circuit is identified as a repeating 4+yr 10% or 300% circuit, then it is advanced on the infra-red inspection schedule to the current year. This additional focus on the circuits with the highest SAIDI and SAIFI minutes is done to address any performance issues. Also, circuits that are heavily loaded (greater than 500

amps) are inspected, as data has proven a higher failure rate of equipment when subjected to higher load.

Infra-red scans are made of the terminal poles at the substation and major equipment on the circuit, including pole-top switches, reclosers, regulators, and capacitors. Scans are also performed on the fuse cutouts, jumpers, splices, and transformers along the circuit backbone. The identified hot spots are reported, and repairs are made. If the problem is severe enough and there is a danger of imminent failure, then procedures are taken to isolate the device and initiate immediate repairs.

(b) The Root Cause Analysis Program for the 10% Circuits

The program is designed so that the action plan and recommended construction be completed within 120 days.

(c) Feeder Inspection Program

CenterPoint Energy has instituted a proactive feeder inspection program. Through this program, distribution feeders are inspected on a periodic basis to identify and correct issues found with the condition of the feeder that could impact the reliable operation of the feeder. This periodic inspection and maintenance is expected to improve the performance of the feeders under adverse weather conditions. Damaged or broken facilities are identified, reports are made, and work orders to repair are issued accordingly.

(d) “As You Go” Inspections

As many as 700 personnel are in the field on a daily basis. This includes linemen, crew leaders, service consultants, and engineers. As they go about their daily business, they observe the condition of overhead facilities and report any unusual problems. Cameras have been made available to these personnel and they have been instructed to visually record these abnormal conditions. Work orders are then created from these pictures so that crews can be routed to correct the issue.

VII. 16 Tex. Admin. Code § 25.95(e)(7)

Plans and procedures to enhance the reliability of overhead and underground transmission and distribution facilities through the use of transmission and distribution automation

There were no material revisions to the Company's plans and procedures to enhance the reliability of the overhead and underground transmission or substation facilities through automation.

In 2011, CenterPoint Energy instituted a procedure to no longer install automation on line reclosers and pole-top switches. Instead, the Company utilizes the devices in the intelligent grid deployment. These devices are state of the art equipment that allows for the functionality of the existing equipment coupled with enhanced features. The Company is able to program these devices to automatically sectionalize for a fault and then reclose if the fault has had one of the following occur: cleared, auto-sectionalize without a reclose, a remote command to operate, or a local command in the same device. Because one device can be programmed or re-programmed to perform the functionality of several devices, the device can be quickly modified in a distribution system that is changing. The devices are designed to interface with state of the art communication protocols, so that there is an interface with the new distribution communication network.

CenterPoint Energy maintains a hardened transmission primary control center with redundant computer systems separated by firewalls. The transmission control center provides the ability to monitor and remotely operate the Company's transmission network from a secure, storm-hardened facility, including the ability to dynamically rate transmission circuits and restore service to customers impacted by a storm through remote control of switching equipment.

CenterPoint Energy completed construction of a back-up transmission control center in December 2015, in compliance with NERC Reliability Standard EOP-008. The back-up control center is a storm hardened facility with redundant computer systems and can perform the same functions provided by the primary control center in the event the functionality of the existing transmission control center is impaired or lost. In January 2016, the backup control center received certification from NERC/Texas Reliability Entity ("TRE") that the new facility met all requirements to operate the CenterPoint Energy transmission system independent of the primary control center.

VIII. 16 Tex. Admin. Code § 25.95(e)(8)

Plans and procedures to comply with the most recent National Electric Safety Code (NESC) wind loading standards in hurricane prone areas for new construction and rebuilds of the transmission and distribution system

There were no material revisions to the Company's plans and procedures to comply with the most recent NESC wind load standards in hurricane prone areas for new construction and rebuilds of the transmission and distribution system. CenterPoint Energy adopted the latest NESC C2-2017 design requirements into its design criteria for overhead lines.

IX. 16 Tex. Admin. Code § 25.95(e)(9)

Plans and procedures to review new construction and rebuilds to the distribution system to determine whether they should be built to NESC Grade B (or equivalent) standards

All new overhead distribution freeway crossings are built on concrete poles. There were no other material revisions to the Company's plans and procedures to review new construction and rebuilds to the distribution system to determine whether they should be built to NESC Grade B or equivalent standards.

X. 16 Tex. Admin. Code § 25.95(e)(10)

Plans and procedures to develop a damage/outage prediction model for the transmission and distribution system

There were no material revisions to the Company's plans and procedures to develop a damage or outage prediction model for the transmission and distribution system.

XI. 16 Tex. Admin. Code § 25.95(e)(11)

Plans and procedures for use of structures owned by other entities in the provision of distribution service, such as poles owned by telecommunications utilities

There were no material revisions to the Company's plans and procedures for use of

structures owned by other entities in the provision of distribution service, such as poles owned by telecommunications utilities.

XII. 16 Tex. Admin. Code § 25.95(e)(12)

Plans and procedures for restoration of service to priority loads and for consideration of targeted storm hardening of infrastructure used to serve priority loads

There were no material revisions to the Company's plans and procedures for restoration of service to priority loads and for consideration of targeted storm hardening of infrastructure used to serve priority loads.

XIII. Other Storm Hardening Plans

CenterPoint Energy has the following revised and additional plans to harden its transmission and substation facilities during the next five years.

Project Name	Location (City/ County)	Description	Estimated (or Actual) Start Date	Estimated Completion Date	Estimated Project Cost
West Galveston- Galveston 26th #926	Galveston/ Galveston	Rebuild portion of 138 kV Ckt 63A to meet the most recent NESC C2-2017 extreme wind loading requirements.	10/03/2018	5/30/2019	\$6,309,000
AMOCO - Algoa Corner #963	League City, Alvin, Galveston, Brazoria	Rebuild portion of 138 kV Ckt 04A to meet the most recent NESC C2-2017 extreme wind loading requirements.	01/18/2016	4/30/2019	\$29,612,000
MONSAN- AMOCO #963.1	Brazoria	Rebuild portion of 138 kV Ckt 04B to meet the most recent NESC C2-2017 extreme wind loading requirements.	04/03/2018	04/30/2019	\$4,285,000
Cedar Bayou- Chambers-King- North Belt-T.H. Wharton (Modifications) #881	Baytown, Mont Belvieu, Houston, Chambers, Harris	Modification of 345 kV Ckts. 97A, 97B, 97C, 97E, and 99G to meet the most recent NESC C2-2017 extreme wind loading requirements.	11/15/2017	05/31/2019	\$5,266,000
Morgans Point- Sandy Point #857.2	LaPorte, Harris	Rebuild portion of 138 kV Ckt 96D & 96F to meet the most recent NESC C2-2017 extreme wind loading	09/15/2019	06/30/2020	\$4,502,000

		requirements.			
Angleton – Liverpool #1037	Angleton, Brazoria	Rebuild portion of 138kV Ckt 04C to meet the most recent NESC C2-2017 extreme wind loading requirements.	6/1/2019	5/1/2020	\$29,000,000
Highlands Tap #1150	Baytown, Harris	Rebuild portion of 138kV Ckt 08G to meet the most recent NESC C2-2017 extreme wing loading requirements.	1/2/2019	11/30/2019	\$8,242,000
Moody – Stewart	Galveston, Galveston	Rebuild portion of 138kV Ckt 63C to meet the most recent NESC C2-2017 extreme wind loading requirements.	09/01/2019	12/01/2020	\$6,600,000
Rittenhouse Tap #924	Houston, Harris	Rebuild portion of 138kV Ckt 86E to meet the most recent NESC C2-2017 extreme wind loading requirements.	01/01/2019	05/31/2020	\$2,100,000
West Columbia-Lake Jackson Airflow Spoilers #22-3	Lake Jackson, Brazoria	Retrofit portion of 138 kV Ckt 02C with anti-galloping devices to avoid damage from icing conditions.	11/1/2018	5/1/2019	\$748,000
CROSBY-CONNER Airflow Spoilers #22-4	Houston, Harris, Liberty, Chambers	Retrofit portion of 138 kV Ckt 86D with anti-galloping devices to avoid damage from icing conditions.	4/20/2019	12/31/19	\$450,000
BRITMOORE-CLODINE Airflow Spoilers #22-5	Houston, Harris	Retrofit portion of 138 kV Ckt 73B with anti-galloping devices to avoid damage from icing conditions.	4/8/2019	5/31/2020	\$450,000
IMPERIAL-WA PARISH Airflow Spoilers #22-6	Houston, Harris, Fort Bend	Retrofit portion of 138 kV Ckt 80B with anti-galloping devices to avoid damage from icing conditions.	4/20/2019	5/31/2020	\$450,000
EAST BERNARD-DYANN Airflow Spoilers #22-7	Houston, Wharton	Retrofit portion of 138 kV Ckt 60B with anti-galloping devices to avoid damage from icing conditions.	4/20/2019	12/31/2020	\$450,000
NORTH BELT-TH WHARTON Airflow Spoilers #22-8	Houston, Harris	Retrofit portion of Ckt 95A with anti-galloping devices to avoid damage from icing conditions.	5/20/2019	12/31/2020	\$450,000

LA MARQUE- WEST GALVESTON Airflow Spoilers #22-9	Galveston/ Galveston	Retrofit portion of 138 kV Ckt 93C with anti-galloping devices to avoid damage from icing conditions.	5/20/2019	5/31/2021	\$450,000
HOCKLEY- PETERS Airflow Spoilers #22-10	Houston, Waller, Austin	Retrofit portion of 138 kV Ckt 65B with anti-galloping devices to avoid damage from icing conditions.	5/20/2019	5/31/2021	\$450,000
ZENITH- ADDICKS Airflow Spoilers #22-11	Houston, Harris	Retrofit portion of 138kV Ckt 76A with anti-galloping devices to avoid damage from icing conditions	5/20/2019	12/31/2021	\$450,000
FLEWELLEN- BRAZOS VALLEY Airflow Spoilers #22-12	Houston, Fort Bend	Retrofit portion of 138 kV Ckt 09G with anti-galloping devices to avoid damage from icing conditions.	5/20/2019	12/31/2021	\$450,000
Wallisville Substation	Harris	Build elevated control cubicle to avoid damage from flooding.	08/03/2018	9/30/2019	\$900,000
Wharton Substation	Wharton	Build elevated control cubicle to avoid damage from flooding.	07/26/2018	08/19/2019	\$1,400,000
West Columbia Substation	Brazoria	Build elevated control cubicle and elevate breakers and pull boxes to avoid damage from flooding.	01/21/2019	5/15/2020	\$1,600,000

XIV. Detailed Summary of the Company's Progress in Implementing the Plan

Section	Progress During 2017
I. Construction standards, policies, procedures, and practices	All distribution, substation, and transmission construction standards, planning design criteria, facility design criteria, system protection practices, and maintenance practices were followed.
II. Vegetation management	Vegetation management will be reported pursuant to 16 TAC § 25.96.

III. Smart Grid	• 83 intelligent grid switching devices were installed in 2018. • DSCADA has the capability to remotely control approximately 1,525 distribution switching devices (557 legacy devices and 968 IGSD devices).
IV. Post storm damage assessment of distribution and transmission systems	• Contracts were established with multiple damage assessment contractors to identify distribution damage after a major storm. • Procedures for transmission damage assessment were established.
V. Transmission and distribution pole construction standards, pole attachment policies, and pole testing schedule	• All pole construction standards were followed. • All Federal Communications Commission and Company attachment policies were followed. • 148,461 CenterPoint Energy distribution poles were assessed.
VI. Distribution feeder inspections	• 54 distribution circuits were inspected resulting in 254 work orders issued. • 339 distribution circuits had infrared inspections. • As part of the Root Cause Analysis Program, circuit inspections were performed on the 10% and 300% circuits. • As part of the Hot Fuse Program, inspections were made of laterals that had recurring outages.
VII. Transmission, Substation, Distribution and Control Center automation	• Automation was a standard part of transmission, substation and control center operations. • See Section III. Smart Grid above for distribution automation progress. • Construction on the transmission backup control center was completed in December 2015.
VIII. NESC wind loading standards for transmission and distribution	• NESC wind loading requirements for transmission, substation, and distribution facilities were followed.
IX. Consideration for NESC Grade B (or equivalent) standards for distribution	• Freeway and railroad crossings were constructed to B grade requirements pursuant to the NESC. • New overhead freeway crossings were constructed on concrete poles. • Step transformer banks using 250 to 500 KVA transformers were constructed on class H2 poles. • 35 kV regulator banks were built with four pole construction. • Single phase primary tangent construction when built on class 3 poles meets grade B construction.

X. Damage/outage prediction model for the transmission and distribution	The Company has several tools for predicting distribution and transmission system damage and potential flooding in substations.
XI. Use of distribution structures owned by other entities	- As part of the Company's pole inspection program, the contractors inspected all foreign poles in the designated areas. - The foreign poles that merit replacement or bracing were handled at the expense of the other entity.
XII. Restoration of service to priority loads and targeted hardening of infrastructure used to serve priority loads	All guidelines in the Company's Emergency Operations Plan regarding restoration priorities after a major outage event, including priority customers, were followed.
XIII. Other storm hardening plans	- Memorial Substation, including the control cubicle, three 50 MVA transformers, and switchyard equipment, was elevated in 2018. Work began in 2018 to elevate the control cubicles at Wharton and Wallisville Substations. - Three transmission system hardening projects were completed in 2018. These included rebuilding a portion of the Franklin-Gable St. 138kV Ckt 21B, a portion of the Franklin-Crocket 138kV Ckt 21M, and a portion of the Downtown-Crocket 138kV Ckt 91E.

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

**CITY OF HOUSTON
REQUEST NO.: COH08-13**

QUESTION:

Vegetation Management:

Please provide CenterPoint's vegetation management budget for 2019 and 2020 in the format of the table on WP RMP-1, page 2 of 3, separately identifying amounts for transmission and distribution.

ANSWER:

See attachment COH08-13 Costs for 2019 and 2020 (Confidential).xlsx for the vegetation management costs for 2019 in the format of the table on WP RMP-1, page 2 of 3. Consistent with a clarification received by counsel for the City of Houston, this response includes data only for distribution. As stated in COH01-27, the Company has not conducted an analysis to forecast future 2020 expenditures related to tree-trimming.

The attachment is confidential and is being provided pursuant to the Protective Order issued in Docket No. 49421.

SPONSOR (PREPARER):

Randal Pryor (Randal Pryor)

RESPONSIVE DOCUMENTS:

COH08-13 Costs for 2019 and 2020 (confidential).xlsx

**CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
2019 CEHE RATE CASE
DOCKET 49421-SOAH DOCKET NO. 473-19-3864
CITY OF HOUSTON
REQUEST NO.: COH08-14**

QUESTION:

Vegetation Management:

Please provide the amounts included in the revenue requirement for the tree trimming program for both transmission and distribution, preferable in the format of the table on WP RMP-1, page 2 of 3.

ANSWER:

The amounts included in the revenue requirement for the tree trimming program for distribution for 2018 are the amounts shown in the table. All of these amounts are O&M. Consistent with a clarification received from counsel for the City of Houston, this response includes data only for distribution.

SPONSOR (PREPARER):

Kristie Colvin/Randal Pryor (Kristie Colvin/Randal Pryor)

RESPONSIVE DOCUMENTS:

None

CERTIFICATE OF SERVICE

I hereby certify that on this 16th day of May 2019, a true and correct copy of the foregoing document was served on all parties of record in accordance with 16 Tex. Admin. Code § 22.74.