

#### Exhibit GDJ-3 Page 1 of 3

#### Oncor's 2019 Earned Energy Efficiency Performance Bonus Calculation

	Track		T_		kW	kWh	Tatal Associated	Tetal Associated	Tract Accessed		Benefit
	Costs*	kW Saved	kWh Saved	Life - Yrs	Avoided Costs**	Avoided Costs**	Costs kW	Costs kWh	Costs	Net Benefits	Cost Ratio
Residential							1				
Solar PV SOP (Residential)	\$2,664,994	1,505.61	4,901,773.2	30.0	\$1,184.41	\$0.75270	\$1,783,259.54	\$3,689,564.69	\$5,472,824.23	\$2,807,830.23	2.05
Targeted LIP	\$5,556,249	4,249.16	8,031,889.7				\$3,481,588.58	\$4,151,260.41	\$7,632,848.99	\$2,076,599.99	1.37
Air Infiltration		76.97	91,635.4	11.0	\$653.03	\$0.41500	\$50,263.72	\$38,028.69	\$88,292.41		
Ceiling Insulation		103.27	118,154.1	25.0	\$1,090.79	\$0.69320	\$112,645.88	\$81,904.42	\$194,550.31		
Heat Pump		4,013.21	7,558,778.4	15.0	\$811.98	\$0.51601	\$3,258,646.26	\$3,900,405.24	\$7,159,051.50		
Energy Star Regrigerator		0.37	1,542.1	16.0	\$846.81	\$0.53815	\$313.32	\$829.88	\$1,143.20		
Showerheads		0.97	2,520 1	10.0	\$607.86	\$0.38630	\$589.62	\$973.51	\$1,563.14		
Water Heater Jacket		0.18	1,332.3	7.0	\$457.37	\$0.29066	\$82.33	\$387.25	\$469.57		
Water Heater Pipe Insulation		0.04	248.1	13.0	\$736.63	\$0.46813	\$29.47	\$116.14	\$145 61		
Wall Insullation		52.31	75,214.5	25.0	\$1,090 79	\$0.69320	\$57,059.22	\$52,138.69	\$109,197.92		
Energy Star Window		1.74	2,731.5	25.0	\$1,090.79	\$0.69320	\$1,897.97	\$1,893.48	\$3,791 45		
Energy Star Thermostat		0.00	179,518.0	11.0	\$653.03	\$0.41500	\$0.00	\$74,499 97	\$74,499.97		
Aerators		0.10	215.2	10.0	\$607.86	\$0.38630	\$60.79	\$83.13	\$143.92		
Hard-to-Reach SOP	\$7,812,446	13,173.43	19,638,108.7				\$10,095,343.39	\$9,843,870.91	\$19,939,214.30	\$12,126,768.30	2 55
Ceiling Insulation		1,631.42	2,743,529.7	25.0	\$1,090.79	\$0.69320	\$1,779,536.62	\$1,901,814.79	\$3,681,351.41		
Heat Pump		4,905.82	9,234,768.5	15.0	\$811 98	\$0 51601	\$3,983,427.72	\$4,765,232.89	\$8,748,660.62		
Showerheads		27.72	69,621.3	10.0	\$607 86	\$0.38630	\$16,849.88	\$26,894.71	\$43,744.59		
Air Infiltration		6,608.47	7,234,265.7	11.0	\$653 03	\$0.41500	\$4,315,529.16	\$3,002,220.27	\$7,317,749.43		
Energy Star Thermostat		0.00	355,923.5	11.0	\$653.03	\$0.41500	\$0.00	\$147,708.25	\$147,708.25		
				ļ							
Residential Load Management MTP	\$1,425,198	29,426.00	88,293.9	1.0	\$75.95	\$0.04827	\$2,234,904.70	\$4,261.95	\$2,239,166.65	\$813,968.65	1.57
Home Energy Efficiency SOP	\$10,912,886	18,859.57	35,959,167.4	L	L		\$15,619,666.79	\$19,018,441.80	\$34,638,108.59	\$23,725,222.59	3.17
Air Infiltration		1,614.04	1,768,742 7	11.0	\$653.03	\$0.41500	\$1,054,016.54	\$734,028.22	\$1,788,044.76		
Ceiling Insulation		106.58	153,783.6	25.0	\$1,090.79	\$0.69320	\$116,256.40	\$106,602.79	\$222,859.19		
Heat Pump		11,777.49	23,497,123.8	15.0	\$811.98	\$0.51601	\$9,563,086.33	\$12,124,750.85	\$21,687,837.18		
Central A/C		5,353.14	10,192,972.0		\$911.28	\$0.57912	\$4,878,209.42	\$5,902,953.94	\$10,781,163.36		
Energy Star Window		0.27	467.5	25.0	\$1,090.79	\$0.69320	\$294.51	\$324.07	\$618.58		
Ground Source Heat Pump		8.05	30,637.3	20.0	\$969.39	\$0 61605	\$7,803.59	<u>\$18,874.11</u>	\$26,677.70		
Energy Star Thermostat		0.00	315,440.5	11.0	\$653.03	\$0.41500	\$0.00	\$130,907.81	\$130,907.81		
Retail Platform MTP	\$3,699,559	11,887.21	40,012,585.6				\$10,643,400.75	\$22,626,302.53	\$33,269,703.27	\$29,570,144.27	8.99
Energy Star Thermostat		0.00	947,024.0	11.0	\$653.03	\$0.41500	\$0.00	\$393,014.96	\$393,014.96		
Lighting		7,178.51	23,530,830.0	16.0	\$846.81	\$0.53815	\$6,078,834.05	\$12,663,116.16	\$18,741,950.22		
Lighting		4,708.70	15,534,731.6	20.0	\$969.39	\$0.61605	\$4,564,566.69	\$9,570,171.40	\$14,134,738.10		
Residential Total	\$32,071,332	79,100.98	108,631,818.5				\$43,858,163.75	\$59,333,702.27	\$103,191,866.02	\$71,120,534.02	3.22



#### Exhibit GDJ-3 Page 2 of 3

#### Oncor's 2019 Earned Energy Efficiency Performance Bonus Calculation

			1	Т	LW	LWb.		<u></u>		1	Denefit
	Total Program Costs	kW Saved	kWh Saved	Measure Life - Yrs	Avoided	Avoided	Total Avoided Costs kW	Total Avoided Costs kWh	Total Avoided Costs	Net Benefits	Cost
Commercial			<u> </u>			1 00000	<b>.</b>	J	L		1 11410
Commercial SOP (Custom)	\$511,602	572 12	2,765,155.4		1	T	\$468,589.73	\$1,415,219 89	\$1,883,809 62	\$1,372,207,62	3.68
Deemed Cooling		62.22	165,001.2	15.0	\$811.98	\$0.51601	\$50,521.40	\$85,142.27	\$135.663.66	+ · /	
Lighting Controls		0.00	-110.4	10.0	\$607.86	\$0,38630	\$0.00	-\$42.65	-\$42 65	·····	<u> </u>
Lighting		408.77	2,214,453.8	15.0	\$811.98	\$0.51601	\$331,913 06	\$1,142,680.31	\$1,474,593,37		1
Motor/VFD		34 22	313,023.9	15.0	\$811.98	\$0.51601	\$27,785.96	\$161.523.46	\$189,309,42		
Lighting		15.87	72,786.9	9.0	\$560.28	\$0,35606	\$8,891.64	\$25,916,50	\$34,808,15		
Thermal Storage		51.04	0.0	20.0	\$969.39	\$0.61605	\$49,477.67	\$0.00	\$49.477.67		
				1	1		i				
Commercial Load Management SOP	\$2,895,262	60,000.00	180,000.0	1.0	\$75.95	\$0.04827	\$4,557,000.00	\$8,688.60	\$4,565,688.60	\$1,670,426.60	1.58
Commercial SOB (Bases)	\$12 000 040	10 660 50	02 206 462 5		ļ		\$15 117 101 04	£40.350.117.10	PC4 470 000 17	050 C47 450 47	1.00
Deemed Cooling	φ13,020,040	2 480 66	5 405 456 6	15.0	\$911.09	\$0,51601	\$2 014 246 21	\$49,339,117.13	\$4,470,290.17	\$50,647,450.17	4.00
Deemed Cooling	1	234 83	1 074 776 9	20.0	\$060.30	\$0.51001	\$207 641 95	\$2,709,209.00	2 94,003,515.97 ¢990 759 16		<u> </u>
Deemed Cooling	1	704.84	11 095 337 0	25.0	\$1 090 79	\$0.69320	\$768 832 42	\$7 691 287 61	\$8,460,120,03		<u> </u>
		3.45	-16,199,8	16.0	\$846.81	\$0.53815	\$2 921 49	-\$8 717 92	-\$5 796 43		<u> </u>
Lighting		12.898.66	67.258.669.1	15.0	\$811.98	\$0.51601	\$10,473,453,95	\$34,706,145,84	\$45,179,599,79		
Lighting		394.02	2,220,364.9	9.0	\$560.28	\$0.35606	\$220.761.53	\$790,583,13	\$1.011.344.65		<u> </u>
Liahting		-0.56	-4,194.3	15.5	\$829.62	\$0.52722	-\$464.59	-\$2,211,32	-\$2.675.91		<u> </u>
Lighting Controls		782.25	3,898,496.5	10.0	\$607.86	\$0.38630	\$475,498.49	\$1,505,989.20	\$1,981,487.68		
Master Metered Apartments Air Inflitration		723.43	792,244.2	11.0	\$653.03	\$0.41500	\$472,421.49	\$328,781.34	\$801,202.84		
Refrigerator Door Reach In		2.74	24,371 0	12.0	\$695.92	\$0.44225	\$1,906.82	\$10,778.07	\$12,684 90		
Refrigerator Zero Energy Doors		58.22	508,043.6	12.0	\$695.92	\$0.44225	\$40,516.46	\$224,682.28	\$265,198.74		
Air Handler Control		5.70	337,993.0	150	\$811.98	\$0.51601	\$4,628.29	\$174,407.77	\$179,036.05		
Master Metered Apts-Attic Insulation		380.29	701,103.8	25.0	\$1,090.79	\$0.69320	\$414,816.53	\$486,005.15	\$900,821.68		
Solar PV SOP (Commercial)	\$3,570,388	2,141.14	6,724,376.6	30.0	\$1,184.41	\$0.7 <u>5270</u>	\$2,535,987.63	\$5,061,438.27	\$7,597,425.89	\$4,027,037.89	2.13
Small Business Direct Install MTP	\$2,418,074	1.891.93	9.150.313.0				\$1.473.514.35	\$4.530.818.27	\$6.004.332.62	\$3,586,258,62	2.48
Lighting		28.78	135,663 1	160	\$846.81	\$0.53815	\$24,371.19	\$73.007.10	\$97.378.29		
Lighting		1.610.07	7,802,727,8	15.0	\$811.98	\$0.51601	\$1.307.344 64	\$4.026.285 57	\$5.333.630 21	······································	
Liahtina		253.02	1,211,637.0	9.0	\$560.28	\$0.35606	\$141.762.05	\$431.415.47	\$573,177,52		
Lighting Controls		0.06	285.1	10.0	\$607.86	\$0.38630	\$36.47	\$110.13	\$146.61		
Retail Platform MTP	\$243,802	5,075.18	20,616,327.7				\$2,843,521.85	\$7,340,649.64	\$10,184,171.49	\$9,940,369.49	41.77
Lighting		5,075.18	20,616,327.7	9.0	\$560.28	\$0.35606	\$2,843,521.85	\$7,340,649 64	\$10,184,171.49		
			L								
Retro-commissioning MTP	\$259,114	0	1,787,403.0	5.0	\$343.19	\$0.21810	\$0.00	\$389,832.59	\$389,832.59	\$130,718.59	1.50
Commercial Total	23,727,090	88,348.90	134,520,038.2				\$26,995,795	\$68,105,764	\$95,101,559	\$71,374,468.98	4.01
R&D	<b>\$0</b>		· · · · · ·								┞
EM&V	\$0										
Grand Total	\$55,798,422	167,449.88	243,151,856.7				\$ 70,853,958.34	\$ 127,439,466.67	\$ 198,293,425.00	\$142,495,003.00	3.55

\* Program costs include incentive and administration expenses along with R&D, EM&V and the Performance Bonus collected in 2019 which are allocated among all programs as shown in workpaper WP/GDJ/7, column (i)



#### Oncor's 2019 Earned Energy Efficiency Performance Bonus Calculation

2019 Minimum Goal MW	69.400
2019 Achieved Goal MW	167.450
Percentage Over Goal	141.28%
Bonus Calculation % of Net Benefits (1% of	
every 2% the Demand Goal is exceeded)	0.7064
Penue Record on 70.64% of Not Reports	
Bonus Based on 70 64% of Net Benefits	
(\$142,495,003 x .7064)	\$100,658,470
D	
Bonus Capped at 10% of 2019 Total Net Benefits	
(\$142,495,003 x .1)	\$14,249,500
	····
Total Bonus	\$14 249 500

Net Benefit Calcu	ulation
\$198,293,425	Total Avoided Costs
-\$55,798,422	Sum of Total Program Costs
\$142,495,003	Net Benefits

\*\*Avoided Costs are calculated using the present value of Commission-approved initial avoided capicity cost of \$80/kW and initial avoided energy cost of \$0.05084/kWh as stated in §25.181(d)(2) and (d)(3) and based on measure life, 2% escalation rate and 7 44% discount rate as stated in §25.182(e)(5), as shown in workpaper WP/GDJ/2.



#### Oncor's Total 2021 EECRF Request by Rate Code

а	b	С	d	e	f	g	h
	Residential	Secondary <u>≤</u> 10 kW	Secondary > 10 kW	Primary > 10 kW Distribution Line	Primary > 10 kW Substation	Transmission Service Non-Profit	
		Rate Code B0, B1, B4	Rate Code D0, D1, D4, D6, DC, DJ, DK, DQ, E0, E1, E4, EC, EJ, EQ	Rate Code J0, K4, K0	Rate Code L0	Rate Code N0, N4	Total
Home Energy Efficiency SOP	\$10,446,652	\$0	\$0	\$0	\$0	\$0	\$10,446,652
Solar PV SOP - Residential	\$1,541,704	\$0	\$0	\$0	\$0	\$0	\$1,541,704
Hard-to-Reach SOP	\$7,563,116	\$0	\$0	\$0	\$0	\$0	\$7,563,116
Targeted Weatherization Low-Income SOP (SB 712)	\$5,206,115	\$0	\$0	\$0	\$0	\$0	\$5,206,115
Residential Load Mangement SOP	\$1,187,889	\$0	\$0	\$0	\$0	\$0	\$1,187,889
Retail Platform - Residential	\$4,581,557	\$0	\$0	\$0	\$0	\$0	\$4,581,557
Residential New Home MTP	\$1,501,891	\$0	\$0	\$0	\$0	\$0	\$1,501,891
Commercial SOP	\$0	\$64,414	\$7,178,431	\$627,233	\$253,852	\$329,339	\$8,453,269
Commercial Load Management SOP	\$0	\$0_	\$1,460,097	\$901,239	\$46,397	\$0	\$2,407,733
Solar PV SOP - Commercial	\$0	\$86,521	\$2,250,629	\$0	\$0	\$0	\$2,337,150
Small Business Direct Install MTP	\$0	\$0	\$3,474,161	\$0	\$0	\$0	\$3,474,161
Retail Platform - Commercial	\$0	\$0	\$242,277	\$0	\$0	\$0	\$242,277
Retro-Commissioning	\$0	\$0	\$1,171,601	\$0	\$0	\$0	\$1,171,601
Commercial HVAC Distributor MTP	\$0	\$0	\$1,505,406	\$0	\$0	\$0	\$1,505,406
Total Estimated Program Expenses by Rate Code	\$32,028,924	\$150,935	\$17,282,602	\$1,528,472	\$300,249	\$329,339	\$51,620,521
2021 Estimated EM&V Expenses for review of 2020 Program Year. Rate Class allocation based on actual 2019 EM&V expenses incurred as shown in Exhibit GDJ-2.	\$323,112	\$9,657	\$324,107	\$72,424	\$5,587	\$1,102	\$735,989
Total Program Expenses and Estimated EM&V Expenses	\$32,352,036	\$160,592	\$17,606,709	\$1,600,896	\$305,836	\$330,441	\$52,356,510
2019 EECRF Over Recovery							(\$1,756,778)
Municipal Rate Case Expenses for 2019 in Docket No. 49594	·····						\$9,940
Requested Energy Efficiency Performance Bonus for 2019							\$14,249,500
Total 2021 EECRF Request							\$64,859,172

Program totals include incentives, administration costs, research and development costs WP/GDJ/4 (column f). EM&V expenses are estimated as shown in WP/GDJ/4 (see footnote for explanation) Commercial program rate class allocations are based on rate codes found in WP/GDJ/1. Commercial SOP is allocated based on the actual incentives by rate code in the 2019 Basic and Custom Commercial programs.

#### Exhibit GDJ - 4 Page 1 of 1





#### Consumer Price Index - All Urban Consumers Original Data Value

Series Id: CUUR0300SA0,CUUS0300SA0 Not Seasonally Adjusted

Area:	South urban
Item:	All items
Base Period:	1982-84=100
Years:	2003 to 2019

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	% increase
2003	175.1	176.4	177.5	177.4	176.8	177.2	177.3	177.9	178.3	178.1	177.5	177.5	177.3	
2004	178.2	179.1	180.1	180.9	182.0	182.9	182.6	182.6	182.8	183.7	183.7	183.3	181.8	2.538100%
2005	183.6	184.7	185.9	187.3	187.3	187.8	188.5	189.4	192.0	192.5	190.7	190.1	188.3	3.575400%
2006	191.5	191.8	192.8	194.7	195.5	196.3	197.0	197.1	195.8	194.7	194.3	194.8	194.7	3.398800%
2007	195.021	195.950	197.904	199.618	200.804	201.675	201.571	201.041	201.697	202.155	203.437	203.457	200.361	2.907600%
2008	204.510	205.060	206.676	208.085	210.006	212.324	213.304	212.387	212.650	210.108	205.559	203.501	208.681	4.152500%
2009	204.288	205.343	206.001	206.657	207.265	209.343	208.819	209.000	208.912	209.292	209.738	209.476	207.845	-0.400600%
2010	210.056	210.020	211.216	211.528	211.423	211.232	210.988	211.308	211.775	212.026	211.996	212.488	211.338	1.680600%
2011	213.589	214.735	217.214	218.820	219.820	219.318	219.682	220.471	220.371	219.969	219.961	219.469	218.618	3.444700%
2012	220.497	221.802	223.314	224.275	223.356	223.004	222.667	223.919	225.052	224.504	223.404	223.109	223.242	2.115100%
2013	223.933	225.874	226.628	226.202	226.289	227.148	227.548	227.837	227.876	227.420	226.811	227.082	226.721	1.558400%
2014	227.673	228.664	230.095	231.346	231.762	232.269	232.013	231.611	231.762	231.131	229.845	228.451	230.552	1.689700%
2015	226.855	227.944	229.337	229.957	230.886	232.026	231.719	231.260	230.913	230.860	230.422	229.581	230.147	-0.175700%
2016	229.469	229.646	230.977	231.975	232.906	233.838	233.292	233.561	234.069	234.337	234.029	234.204	232.692	1.105800%
2017	235.492	236.052	236.154	236.728	236.774	237.346	236.942	237.892	239.649	239.067	238.861	238.512	237.456	2.047300%
2018	239.772	241.123	241.595	242.486	243.279	243.770	243.776	243.605	243.640	244.163	243.484	242.150	242.737	2.224000%
2019	242.547	243.856	245.554	246.847	246.667	246.515	247.250	246.953	246.891	247.423	247.385	247.289	246.265	1.453400%

Source: Bureau of Labor Statistics - http://data.bls.gov/pdq/SurveyOutputServlet?series\_id=CUUR0300SA0,CUUS0300SA0

Exhibit GDJ - 5 Page 1 of 1



#### **Oncor's 2019 Cost Effectiveness Calculation**

	Total Program Costs*	kW Saved	kWh Saved	Measure Life - Yrs	kW Avoided Costs**	kWh Avoided Costs**	Total Avoided Costs kW	Total Avoided Costs kWh	Total Avoided Costs	Net Benefit <del>s</del>	Benefit Cost Ratio
Residential											
Solar PV SOP (Residential)	\$2,664,427	1,505.61	4,901,773.2	30.0	\$1,184.41	\$0.75270	\$1,783,259.54	\$3,689,564.69	\$5,472,824.23	\$2,808,397.23	2.05
Targeted LIP	\$5,555,068	4,249.16	8,031,889.7				\$3,481,588.58	\$4,151,260.41	\$7,632,848.99	\$2,077,780.99	1.37
Air Infiltration		76.97	91,635.4	11.0	\$653.03	\$0.41500	\$50,263.72	\$38,028.69	\$88,292.41		
Ceiling Insulation		103.27	118,154.1	25.0	\$1,090.79	\$0.69320	\$112,645.88	\$81,904.42	\$194,550.31		
Heat Pump		4,013.21	7,558,778.4	15.0	\$811.98	\$0.51601	\$3,258,646.26	\$3,900,405.24	\$7,159,051.50		
Energy Star Regrigerator		0.37	1,542.1	16.0	\$846.81	\$0.53815	\$313.32	\$829 88	\$1,143.20		
Showerheads		0.97	2,520.1	10.0	\$607.86	\$0.38630	\$589.62	\$ <del>9</del> 73.51	\$1,563.14		
Water Heater Jacket		0.18	1,332.3	7.0	\$457.37	\$0.29066	\$82.33	\$387.25	\$469.57		
Water Heater Pipe Insulation		0.04	248.1	13.0	\$736 63	\$0.46813	\$29.47	\$116.14	\$145.61		
Wall Insultation		52.31	75,214.5	25.0	\$1,090.79	\$0.69320	\$57,059.22	\$52,138.69	\$109,197.92		
Energy Star Window		1 74	2,731.5	25.0	\$1,090.79	\$0.69320	\$1,897.97	\$1,893.48	\$3,791.45		
Energy Star Thermostat		0.00	179,518.0	11.0	\$653.03	\$0.41500	\$0.00	\$7 <b>4,</b> 499.97	\$74,499.97		
Aerators		0.10	215 2	10.0	\$607.86	\$0.38630	\$60.79	\$83.13	\$143.92		
Hard-to-Reach SOP	\$7,810,785	13,173.43	19,638,108.7				\$10,095,343.39	\$9,843,870.91	\$19,939,214.30	\$12,128,429.30	2.55
Ceiling Insulation		1,631.42	2,743,529.7	25.0	\$1,090.79	\$0 69320	\$1,779,536.62	\$1,901,814.79	\$3,681,351.41		
Heat Pump		4,905.82	9,234,768.5	15.0	\$811.98	\$0.51601	\$3,983,427.72	\$4,765,232.89	\$8,748,660.62		
Showerheads		27.72	69,621.3	10.0	\$607.86	\$0.38630	\$16,849.88	\$26,894.71	\$43,744.59		
Air Infiltration		6,608.47	7,234,265.7	11.0	\$653.03	\$0.41500	\$4,315,529.16	\$3,002,220.27	\$7,317,749.43		
Energy Star Thermostat		0.00	355,923.5	11.0	\$653.03	\$0.41500	\$0.00	\$147,708.25	\$147,708.25		
Residential Load Management MTP	\$1,424,895	29,426.00	88,293.9	1.0	\$75.95	\$0.04827	\$2,234,904.70	\$4,261.95	\$2,239,166.65	\$814,271.65	1.57
Home Energy Efficiency SOP	\$10,910,565	18,859.57	35,959,167.4				\$15,619,666.79	\$19,018,441 80	\$34,638,108.59	\$23,727,543.59	3.17
Air Infiltration		1,614.04	1,768,742.7	11.0	\$653.03	\$0.41500	\$1,054,016.54	\$734,028 22	\$1,788,044.76		
Ceiling Insulation		106.58	153,783.6	25.0	\$1,090.79	\$0.69320	\$116,256.40	\$106,602.79	\$222,859.19	_	
Heat Pump		11,777.49	23,497,123.8	15.0	\$811.98	\$0.51601	\$9,563,086.33	\$12,124,750 85	\$21,687,837.18		
Central A/C		5,353.14	10,192,972.0	18.0	\$911.28	\$0.57912	\$4,878,209.42	\$5,902,953.94	\$10,781,163.36		
Energy Star Window		0.27	467.5	25.0	\$1,090.79	\$0.69320	\$294.51	\$324.07	\$618.58		
Ground Source Heat Pump		8.05	30,637.3	20.0	\$969.39	\$0.61605	\$7,803.59	\$18,874.11	\$26,677.70		
Energy Star Thermostat		0.00	315,440.5	11.0	\$653.03	\$0.41500	\$0.00	\$130,907.81	\$130,907.81		
Retail Platform MTP	\$3,698,772	11.887.21	40.012.585.6				\$10.643,400 75	\$22,626,302.53	\$33,269,703.27	\$29,570,931.27	8.99
Energy Star Thermostat		0.00	947.024.0	11.0	\$653.03	\$0.41500	\$0.00	\$393,014.96	\$393,014.96		
Lighting		7.178.51	23,530,830.0	16.0	\$846.81	\$0.53815	\$6,078,834.05	\$12,663,116.16	\$18,741,950.22		
Lighting	-	4,708,70	15.534.731.6	20.0	\$969.39	\$0.61605	\$4,564,566.69	\$9,570,171.40	\$14,134,738.10		
Egnang	1				1						
Residential Total	\$32,064,512	79,100.98	108,631,818.5				\$43,858,163.75	\$59,333,702.27	\$103,191,866.02	\$71,127,354.02	3.22

Exhibit GDJ-6 Page 1 of 2



#### **Oncor's 2019 Cost Effectiveness Calculation**

	Total Program Costs	kW Saved	kWh Saved	Measure Life - Yrs	kW Avoided Costs	kWh Avoided Costs	Total Avoided Costs kW	Total Avoided Costs kWh	Total Avoided Costs	Net Benefits	Benefit Cost Ratio
Commercial	•						<b>A</b>				
Commercial SOP (Custom)	\$511,493	572.12	2,765,155.4				\$468,589.73	\$1,415,219.89	\$1,883,809.62	\$1,372,316 62	3.68
Deemed Cooling		62.22	165,001.2	15.0	\$811.98	\$0.51601	\$50,521.40	\$85,142.27	\$135,663.66		
Lighting Controls		0.00	-110.4	10.0	\$607.86	\$0.38630	\$0.00	-\$42.65	-\$42 65		
Lighting		408.77	2,214,453.8	15.0	\$811 98	\$0.51601	\$331,913.06	\$1,142,680.31	\$1,474,593.37		
Motor/VFD		34.22	313,023.9	15.0	\$811.98	\$0.51601	\$27,785 96	\$161,523.46	\$189,309.42		
Lighting		15.87	72,786.9	9.0	\$560.28	\$0.35606	\$8,891.64	\$25,916.50	\$34,808.15		
Thermal Storage		51.04	0.0	20.0	\$969.39	\$0.61605	\$49,477.67	\$0.00	\$49,477.67		
Commercial Load Management SOP	\$2,894,646	60,000.00	180,000.0	1.0	\$75.95	\$0.04827	\$4,557,000.00	\$8,688.60	\$4,565,688.60	\$1,671,042.60	1.58
Commercial SOP (Basic)	\$13,825,908	18,668.53	93,296,462.5				\$15,117,181.04	\$49.359.117.13	\$64,476,298,17	\$50.650.390.17	4 66
Deemed Cooling		2,480.66	5,405,456.6	15.0	\$811.98	\$0.51601	\$2,014,246.31	\$2,789,269.66	\$4,803,515.97		
Deemed Cooling		234.83	1,074,776.9	20.0	\$969.39	\$0.61605	\$227,641.85	\$662,116.31	\$889,758.16		
Deemed Cooling		704.84	11,095,337 0	25.0	\$1,090.79	\$0.69320	\$768,832.42	\$7,691,287.61	\$8,460,120.03		
Lighting		3.45	-16,199 8	16.0	\$846.81	\$0.53815	\$2,921.49	-\$8,717.92	-\$5,796.43		
Lighting		12,898.66	67,258,669.1	15.0	\$811.98	\$0.51601	\$10,473,453.95	\$34,706,145.84	\$45,179,599.79		
Lighting		394.02	2,220,364.9	9.0	\$560.28	\$0.35606	\$220,761.53	\$790,583.13	\$1,011,344.65		
Lighting		-0.56	-4,194.3	15.5	\$829.62	\$0.52722	-\$464.59	-\$2,211.32	-\$2,675.91		
Lighting Controls		782.25	3,898,496.5	10.0	\$607.86	\$0.38630	\$475,498.49	\$1,505,989.20	\$1,981,487.68		
Master Metered Apartments Air Inflitration		723.43	792,244.2	11.0	\$653.03	\$0.41500	\$472,421.49	\$328,781 34	\$801,202.84		
Refrigerator Door Reach In		2.74	24,371.0	12.0	\$695.92	\$0.44225	\$1,906.82	\$10,778.07	\$12,684.90		
Refrigerator Zero Energy Doors		58.22	508,043.6	12.0	\$695.92	\$0.44225	\$40,516.46	\$224,682.28	\$265,198.74		
Air Handler Control		5.70	337,993.0	15.0	\$811.98	\$0.51601	\$4,628.29	\$174,407.77	\$179,036.05		
Master Metered Apts-Attic Insulation		380.29	701,103.8	25.0	\$1,090.79	\$0.69320	\$414,816.53	\$486,005.15	\$900,821.68		
Solar PV SOP (Commercial)	\$3,569,629	2,141.14	6,724,376.6	30.0	\$1,184.41	\$0.75270	\$2,535,987.63	\$5,061,438.27	\$7,597,425.89	\$4,027,796.89	2.13
Small Business Direct Install MTP	\$2,417,560	1,891.93	9,150,313.0				\$1,473,514.35	\$4,530,818.27	\$6,004,332.62	\$3,586,772.62	2.48
Lighting		28.78	135,663.1	160	\$846 81	\$0.53815	\$24,371 19	\$73,007.10	\$97,378.29		
Lighting		1,610.07	7,802,727.8	15.0	\$811.98	\$0.51601	\$1,307,344 64	\$4,026,285.57	\$5,333,630.21		
Lighting		253.02	1,211,637.0	9.0	\$560.28	\$0.35606	\$141,762.05	\$431,415.47	\$573,177.52		
Lighting Controls		0.06	285.1	10.0	\$607.86	\$0.38630	\$36.47	\$110.13	\$146.61		
Patail Blatform MTD	£049.750	E 07E 19	20 616 207 7	ļ			\$0.040 E01.05	\$7 340 640 64	£10 194 171 40	£0.040.401.40	41.70
	9243,750	5,075.10	20,010,027.7	0.0	\$560.28	\$0.35606	\$2,043,521.05	\$7,340,049.04	\$10,184,171.49	\$5,540,421.45	41.70
Ligiting		3,073.10	20,010,327.7	9.0	\$300.20	\$0.55000	φ <b>2,040,021.00</b>	\$7,540,049.04	\$10,104,171.45		
Retro-commissioning MTP	\$259,059	0	1,787,403.0	5.0	\$343.19	\$0.21810	\$0.00	\$389,832.59	\$389,832.59	\$130,773.59	1.50
Commercial Total	23,722,045	88,348.90	134,520,038.2				\$26,995,795	\$68,105,764	\$95,101,559	\$71,379,513.98	4.01
R&D	\$0										
EM&V	\$0										
Grand Total	\$55,786,557	167,449.88	243,151,856.7				\$ 70,853,958.34	\$127,439,466.67	\$ 198,293,425.00	\$142,506,868.00	3.55

\* Program costs include incentive and administration expenses along with R&D, EM&V and the Performance Bonus collected in 2018, minus Municipal Rate Case expenses, which are allocated among all programs as shown in workpaper WP/GDJ/7, column (j)
\*\*Avoided Costs are calculated using the present value of Commission-approved initial avoided capicity cost of \$80/kW and initial avoided energy cost of \$0 05084/kWh as stated in §25 181(d)(2) and (d)(3) and based on measure life, 2% escalation rate and

7 44% discount rate as stated in §25 182(e)(5), as shown in workpaper WP/GDJ/2

Exhibit GDJ-6



### Contracts Regarding Administrator and/or Service Provider That Received More Than 5% of Overall Incentive Payments

This information is confidential and will be made available only after execution of a certification to be bound by the Protective Order set forth in Attachment B of this Application and delivery of same to Teri Smart, Oncor Electric Delivery Company LLC, 1616 Woodall Rodgers Frwy, Suite 6A-001, Dallas, TX 75202.



# INDEX TO THE DIRECT TESTIMONY OF MATTHEW A. TROXLE, WITNESS FOR ONCOR ELECTRIC DELIVERY COMPANY LLC

I.	POSITION AND QUALIFICATIONS
11.	PURPOSE OF DIRECT TESTIMONY
III.	RECOVERY OF ENERGY EFFICIENCY PROGRAM COSTS
IV.	CALCULATION OF THE AMOUNT TO BE RECOVERED BY ENERGY
	EFFICIENCY RATE CLASSES THROUGH THE 2021 EECRF4
V.	ALLOCATION OF THE EARNED 2019 ENERGY EFFICIENCY
	PERFORMANCE BONUS7
VI.	ALLOCATION OF THE 2019 EECRF PROCEEDING EXPENSES
VII.	EXEMPTION OF INDUSTRIAL CUSTOMERS FROM EECRF CHARGES.
VIII.	CALCULATION OF ONCOR'S LINE LOSS FACTOR USED IN
	DETERMINING ENERGY EFFICIENCY GOALS11
IX.	CALCULATION OF THE PROPOSED 2021 ENERGY EFFICIENCY
	COST RECOVERY FACTORS 12
Х.	CONCLUSION
AFFIC	DAVIT
EXHI	BITS:
EXHI	BIT MAT-1 List of Matthew A. Troxle's Prior Commission Testimony
EXHI	BIT MAT-2 Performance Bonus Allocation
EXHI	BIT MAT-3 EECRF Proceeding Expense Allocation
EXHI	BIT MAT-4 Calculation of 2021 Energy Efficiency Cost Recovery Factors
EXHI	BIT MAT-5 Rider EECRF – Energy Efficiency Cost Recovery Factor
EXHII	BIT MAT-6 Rider EECRF – Energy Efficiency Cost Recovery Factor

PUC Docket No. \_\_\_\_

(Redline Version)

Troxle – Direct Oncor Electric Delivery Application for 2021 EECRF



# DIRECT TESTIMONY OF MATTHEW A. TROXLE I. POSITION AND QUALIFICATIONS

- Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT EMPLOYMENT POSITION.
- A. My name is Matthew A. Troxle. My business address is 1616 Woodall
  Rodgers Freeway, Dallas, Texas 75202-1234. I am the Director of Rates &
  Load Research for Oncor Electric Delivery Company LLC ("Oncor" or
  "Company").
- 8 Q. PLEASE DISCUSS YOUR EDUCATIONAL BACKGROUND AND
  9 PROFESSIONAL QUALIFICATIONS.
- 10 I graduated from Louisiana State University in 1995 with a Bachelor of Α. 11 Science degree in Business Administration Pre-Law. In 1997, I received 12 the degree of Master of Science in Economics from Louisiana State 13 University. I began my employment with the Louisiana Public Service 14 Commission in 1997 as an Economist in the Economics and Rate Analysis 15 Division. In 1999, I began employment with the Public Utility Commission 16 of Texas ("Commission") as a Rate Analyst. In 2000, I was named Senior 17 Rate Analyst, and in 2005, I was named the Director of Retail Market 18 Oversight. In 2007, I was named the Director of the newly formed Tariff and 19 Rate Analysis group. In 2008, I began employment with CenterPoint 20 Energy Service Company as a Manager of Gas Rates in the Regulatory and 21 Government Affairs organization. In 2012, I was named Director of Rates, 22 and in 2015, I assumed the position of Director of Regulatory Affairs for 23 Louisiana and Mississippi. In 2019, I joined Oncor in my current role as the 24 Director of Rates & Load Research. In my current position, I am responsible 25 for oversight of the rates and load research efforts of Oncor.
- 26 Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE THE 27 COMMISSION?

PUC Docket No. \_\_\_\_\_

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- A. Yes. Please see my Exhibit MAT-1 for a list of the proceedings in which I
   have provided testimony before the Commission and other regulatory
   authorities.
  - II. PURPOSE OF DIRECT TESTIMONY
  - Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?
- 6 Α. The purpose of my direct testimony is to: (1) provide background on 7 Oncor's recovery of energy efficiency program costs in calendar year 2019; 8 (2) describe and support the methodology used to develop the proposed 9 energy efficiency cost recovery factor ("EECRF") charges to recover the 10 proposed 2021 energy efficiency costs pursuant to 16 Tex. Admin. Code 11 ("TAC") § 25.181 ("Rule 25.181") and § 25.182 ("Rule 25.182"); (3) describe 12 and support the methodology used to allocate Oncor's 2019 earned energy 13 efficiency performance bonus to the energy efficiency rate classes; (4) 14 describe and support the methodology used to allocate the EECRF 15 proceeding expenses incurred in 2019 to the energy efficiency rate classes; 16 (5) describe and support the process Oncor used to exempt industrial 17 distribution voltage customers from EECRF charges; (6) describe and 18 support the calculation of the line loss factor used in determining Oncor's 19 energy efficiency goals; and, (7) support Oncor's proposed adjustments to 20 its Rider EECRF – Energy Efficiency Cost Recovery Factor. For more 21 information related to the Company's proposed 2021 EECRF, please refer 22 to the direct testimony of Oncor witness Mr. Garry D. Jones.
- 23

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## III. RECOVERY OF ENERGY EFFICIENCY PROGRAM COSTS

Q. HOW WERE COSTS ASSOCIATED WITH ENERGY EFFICIENCY
 PROGRAMS RECOVERED IN 2019?

A. Oncor recovered energy efficiency costs in 2019 through EECRF factors
 approved by the Commission in Docket Nos. 48421 and 47235<sup>1</sup>. Please

PUC Docket No. \_\_\_\_

<sup>&</sup>lt;sup>1</sup> Docket No. 47235 effective March 1, 2018 through February 28, 2019. Docket No. 48421 effective March 1, 2019 through February 29, 2020.



- refer to my WP/MAT/1 for the energy efficiency revenues recovered in 2019
   through these EECRF factors.
- 3 Q WHY IS ONCOR REQUESTING AN EECRF FOR 2021?
- A. Oncor is requesting an EECRF for 2021 in compliance with Rule
  25.182(d)(8), which provides as follows: "Not later than June 1 of each year,
  a utility in an area in which customer choice is offered shall apply to adjust
  its EECRF effective March 1 of the following year."
  - IV. CALCULATION OF THE AMOUNT TO BE RECOVERED BY ENERGY EFFICIENCY RATE CLASSES THROUGH THE 2021 EECRF
- 10 Q. HOW IS THE AMOUNT TO BE RECOVERED THROUGH ONCOR'S
  11 PROPOSED 2021 EECRF DETERMINED?
- 12 Α. The methodology used to determine the amount to be recovered through 13 the EECRF is specified in Rule 25.182(d) and is described in the direct 14 testimony of Oncor witness Mr. Garry D. Jones. Oncor's proposed 2021 EECRF is designed to include the forecasted costs of the 2021 program 15 16 vear (including applicable evaluation, measurement, and verification costs), 17 the overall total over-recovery of actual 2019 energy efficiency costs for 18 Oncor including interest, Oncor's earned energy efficiency performance 19 bonus for 2019 program year achievements, and the EECRF proceeding 20 expenses incurred in 2019 for municipalities served by Oncor. The total 21 amount requested for recovery through the 2021 EECRF is \$64,782,106 as 22 shown on my Exhibit MAT-4.
- Q. PLEASE DESCRIBE HOW THE 2021 ENERGY EFFICIENCY PROGRAM
   COSTS, BY ENERGY EFFICIENCY RATE CLASS, WERE DERIVED.
- A. Oncor witness Mr. Jones assigned the energy efficiency program costs for
  2021 at the rate code level. Mr. Jones then aggregated these program
  costs to the energy efficiency rate class level as shown in his Exhibit GDJ4. I verified that the energy efficiency rate class aggregation from rate code
  was properly conducted.

PUC Docket No.



- 1Q.WAS THERE AN OVERALL TOTAL OVER-RECOVERY OF 20192ENERGY EFFICIENCY PROGRAM COSTS BY ONCOR?
  - A. Yes. The total overall over-recovery (with interest) of \$1,833,844 for Oncor in the 2019 program year is shown on WP/MAT/2 page 1, column (j).
- Q. PLEASE DESCRIBE HOW THE (OVER)/UNDER-RECOVERY OF 2019
  ENERGY EFFICIENCY PROGRAM COSTS, BY ENERGY EFFICIENCY
  RATE CLASS, WAS DERIVED.
- A. The amount of (over)/under-recovery for 2019 by energy efficiency rate
  class was calculated by subtracting the revenues collected through the
  EECRF factors effective in 2019 adjusted to remove: (1) the 2017
  performance bonus amount; (2) the 2017 (over)/under-collection amount;
  and (3) the EECRF proceeding expense incurred in 2017 from the actual
  2019 energy efficiency program expenses.
- 14 Q. PLEASE DESCRIBE THE DETAILS OF THE DETERMINATION OF
  15 ONCOR'S (OVER)/UNDER RECOVERY OF 2019 ENERGY EFFICIENCY
  16 PROGRAM COSTS.
- A. The Oncor energy efficiency revenues for 2019 were aggregated to the
  energy efficiency rate class level from Company's books and records as
  reflected in WP/MAT/2 column (d).
- 20 Oncor witness Mr. Jones identified the actual Oncor energy 21 efficiency program expenses by rate code for 2019 as described in his direct 22 testimony. The actual 2019 energy efficiency program expenses were then 23 aggregated to the energy efficiency rate class level as shown in his Exhibit 24 GDJ-2 and my WP/MAT/2 column (c). The 2017 performance bonus and 25 2017 (over)/under-recovery were taken from Docket No. 48421 and are 26 shown on WP/MAT/2 page 1, columns (e) and (g), respectively. The 27 EECRF proceeding expense incurred in 2017 is for the prosecution of 28 Docket No. 47235, Oncor's 2018 EECRF filing.
- 29Q.WHY IS ONCOR APPLYING INTEREST TO THE (OVER)/UNDER30RECOVERY AMOUNTS OF THE 2019 ENERGY EFFICIENCY COSTS?

PUC Docket No.

3



A. A recent change to the energy efficiency rules, in particular the adoption of
 Rule 25.182(d)(1)(A) specifies that the EECRF shall be calculated based
 on, among other things, "the preceding year's over- or under-recovery
 including interest...."

Q. PLEASE DESCRIBE HOW ONCOR APPLIED INTEREST TO THE (OVER)/UNDER RECOVERY OF 2019 ENERGY EFFICIENCY COSTS.

- 7 Α. The methodology used to determine the application of interest to the 8 (over)/under recovery of 2019 energy efficiency costs is specified in Rule 9 25.182(d)(2), which states "For each rate class, the under- or over-recovery 10 of the energy efficiency costs shall be the difference between actual EECRF 11 revenues and actual costs for that class that comply with paragraph (12) of 12 this subsection, including interest applied on such over- or under-recovery 13 calculated by rate class and compounded on an annual basis for a two-year 14 period using the annual interest rates authorized by the commission for 15 over- and under-billing for the year in which the over- or under-recovery occurred and the immediately subsequent year." 16
- 17 Oncor used the methodology specified in Rule 25.182(d)(2) to 18 calculate interest compounded over two years on the (over)/under recovery 19 of 2019 energy efficiency costs. First, the 2019 interest rate for overbillings 20 and underbillings approved by the commission (1.99%) is applied to the 21 (over)/under recovery of 2019 energy efficiency costs by rate class. Next, 22 the 2020 interest rate for overbilling and underbillings approved by the 23 commission (2.35%) is applied to the (over)/under recovery of 2019 energy 24 efficiency costs by rate class (including 2019 interest). These compounding 25 interest calculations are shown in my workpaper WP/MAT/2, columns (i) 26 and (i).

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V.

# ALLOCATION OF THE EARNED 2019 ENERGY EFFICIENCY PERFORMANCE BONUS

- Q. DID ONCOR EARN AN ENERGY EFFICIENCY PERFORMANCE BONUS BASED ON THE RESULTS OF ITS 2019 ENERGY EFFICIENCY PROGRAMS?
- A. Yes. Rule 25.182(e) states that a "utility that exceeds its demand and
  energy reduction goals established in §25.181 of this title at a cost that does
  not exceed the cost caps established in subsection (d)(7) of this section
  shall be awarded a performance bonus...." Details of how Oncor exceeded
  its demand and energy reduction goals without exceeding the applicable
  cost caps, thus qualifying for a performance bonus, are described in Mr.
  Jones' direct testimony.
- Q. WHAT IS THE AMOUNT OF THE 2019 ENERGY EFFICIENCY
  PERFORMANCE BONUS EARNED BY ONCOR AND HOW WAS IT
  DETERMINED?
- A. Under Rule 25.182(e), Oncor earned a \$14,249,500 energy efficiency
   performance bonus for its 2019 program year achievements as shown on
   Exhibit GDJ-3, page 3. Oncor is requesting to recover this earned
   performance bonus of \$14,249,500 through the 2021 EECRF. Mr. Jones'
   direct testimony provides further explanation of the calculation of Oncor's
   earned performance bonus.
- Q. PLEASE DESCRIBE THE METHODOLOGY USED BY ONCOR TO
  ALLOCATE THE EARNED 2019 PERFORMANCE BONUS TO THE
  ENERGY EFFICIENCY RATE CLASSES.
- A. Oncor is proposing to use allocation factors based on the actual 2019
  energy efficiency program costs by energy efficiency rate class. The 2019
  performance bonus allocation for each energy efficiency rate class is
  calculated by multiplying the earned performance bonus amount of
  \$14,249,500 (column (a) of Exhibit MAT-2) by the allocation factor for each
  energy efficiency rate class (column (c) of Exhibit MAT-2). The

PUC Docket No.



- performance bonus allocation factors are the ratio of each energy efficiency
   rate class' actual 2019 energy efficiency program costs to the actual 2019
   total energy efficiency program costs.
- 4 Q. WHY IS ONCOR USING THIS METHODOLOGY FOR ALLOCATING THE
  5 ENERGY EFFICIENCY PERFORMANCE BONUS?
- 6 A. Oncor is adhering to the Commission Rules regarding performance bonus 7 allocation. Rule 25.182(e)(6) states: "The bonus shall be allocated in 8 proportion to the program costs associated with meeting the demand and 9 energy goals under §25.181 of this title and allocated to eligible customers 10 on a rate class basis."
- 11

## VI. ALLOCATION OF THE 2019 EECRF PROCEEDING EXPENSES

- 12 Q. WHY IS ONCOR INCLUDING THE MUNICIPALITIES' EECRF
  13 PROCEEDING EXPENSES INCURRED IN 2019 IN ITS 2021 TOTAL
  14 ENERGY EFFICIENCY COSTS?
- 15 Α. Rule 25.182(d) specifies that the determination of EECRFs are ratemaking 16 proceedings for the purposes of PURA § 33.023. As such, municipalities' 17 EECRF proceeding expenses are reimbursable as rate case expenses. 18 Oncor is including these expenses incurred in 2019 regarding Oncor's 2020 19 EECRF proceeding in Docket No. 49594 as directed by Rule 20 25.182(d)(3)(B) which states: "For municipalities' EECRF proceeding 21 expenses, the utility may include only expenses paid or owed for the 22 immediately previous EECRF proceeding conducted under this subsection 23 for services reimbursable under PURA §33.023(b)."
- Q. WHAT IS THE AMOUNT OF THE MUNICIPALITIES' EECRF
  PROCEEDING EXPENSE INCURRED IN 2019 FOR DOCKET NO. 49594
  AND HOW WAS IT DETERMINED?
- A. The amount of the municipalities' EECRF proceeding expenses for 2019
  that was submitted to Oncor is \$9,940. These expenses were submitted to
  Oncor by the entity (i.e., Steering Committee of Cities Served by Oncor

["Cities"]) representing several municipalities in Oncor's previous EECRF filing in Docket No. 49594.

- Q. PLEASE DESCRIBE THE METHODOLOGY USED BY ONCOR TO
  ALLOCATE THE MUNICIPALITIES' EECRF PROCEEDING EXPENSES
  TO THE ENERGY EFFICIENCY RATE CLASSES.
- A. Oncor is proposing to use allocation factors based on the actual 2019
  energy efficiency program costs by energy efficiency rate class. The
  municipalities' EECRF proceeding expense incurred in 2019 for each
  energy efficiency rate class is calculated by multiplying the total
  municipalities' EECRF proceeding expense of \$9,940 (column (a) of Exhibit
  MAT-3) by the allocation factor for each energy efficiency rate class (column
  (c) of Exhibit MAT-3).
- 13 Q. WHY IS ONCOR USING THIS METHODOLOGY FOR ALLOCATING THE
  14 MUNICIPALITIES' EECRF PROCEEDING EXPENSE?
- 15 Α. Since the rule does not give direction on how to allocate the municipalities' 16 EECRF proceeding expenses to the energy efficiency rate classes, and 17 because the Cities intervene and participate in the EECRF proceedings on 18 behalf of all of their constituents (*i.e.*, all energy efficiency rate classes), 19 Oncor believes its proposed allocation methodology for the municipalities' 20 EECRF proceeding expenses incurred in 2019 is most reasonably and fairly 21 accomplished by using the ratio of actual 2019 energy efficiency programs 22 costs for each energy efficiency rate class to the total 2019 actual energy 23 efficiency program costs. This is the same methodology used to allocate 24 the performance bonus.
- Q. HAS ONCOR REVIEWED THE REASONABLENESS OF THE
   MUNICIPALITIES' EECRF PROCEEDING EXPENSE?
- A. No, Oncor has not reviewed those expenses for reasonableness. The
  burden of proof for those expenses is the responsibility of the Cities. It is
  my understanding that Cities will provide testimony or other evidence
  proving the reasonableness of these expenses. If the Commission

PUC Docket No.

1



ultimately determines that some of these expenses were not reasonable, Oncor will modify the amount to equal the Commission approved amount.

VII. EXEMPTION OF INDUSTRIAL CUSTOMERS FROM EECRF CHARGES

Q. HOW DID ONCOR DETERMINE THE ESIDs THAT QUALIFIED TO OPT-OUT FROM EECRF CHARGES UNDER RULE 25.181(u)?

6 Α. According to the rule, the following information was required to be presented 7 to the utility in order for an industrial customer taking electric service at 8 distribution voltage to gualify for the EECRF exemption: (1) the name of the 9 industrial customer; (2) a copy of the customer's Texas Sales and Use Tax 10 Exemption Certification (pursuant to Tax Code §151.317); (3) a description 11 of the industrial process taking place at the consuming facilities; and, (4) the 12 customer's applicable account number or ESID number. To facilitate an 13 orderly process, Oncor posted on its website an application form, directions 14 to complete the form and a description of the opt-out process. If an 15 industrial customer provided the necessary information as stated in the rule. 16 then Oncor accepted the request for the EECRF opt-out and notified the 17 customer that the ESID(s) would not be charged the EECRF.

Q. WHEN DID ONCOR BEGIN THE INDUSTRIAL OPT-OUT PROCESS?

A. As stated in Rule 25.181(u), "...Notices shall be submitted not later than
February 1 to be effective for the following program year." Oncor began the
industrial opt-out process when notices were received through February 1,
20 2013 that became effective with the first billing cycle of January 2014.
Notices are effective for three years after their acceptance.

24Q.DOES THE INDUSTRIAL OPT-OUT PROCESS AFFECT THE NUMBER25OF BILLING UNITS PER ENERGY EFFICIENCY RATE CLASS?

A. Yes. Oncor estimated the amount of energy (kWh) for 2021 for each
qualified opt-out ESID and reduced the total estimated energy efficiency
rate class energy amount shown on my workpaper WP/MAT/3 accordingly.
The 2021 billing units used in the calculation of the 2021 EECRFs are

PUC Docket No.

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shown on my Exhibit MAT-4 column (f) and reflect the amount of energy for each energy efficiency rate class adjusted for industrial opt-out ESIDs.

- Q. WHAT IS THE NUMBER OF MEGAWATTS THE DEMAND REDUCTION GOAL SHOULD BE ADJUSTED UNDER 16 TAC § 25.181(u), i.e., REGARDING THE EXEMPT INDUSTRIAL CUSTOMERS SERVED AT DISTRIBUTION VOLTAGE?
- 7 Α. As shown in WP/MAT/3, the demand reduction goal is adjusted by 1.8 MW 8 (including line loss) for program year 2021 when factoring exempt industrial 9 customers under 16 TAC § 25.181(u) based on 0.4% of weather-adjusted 10 five year average system peak demand. Specifically, 16 TAC § 11 25.181(e)(3)(B) indicates that once a utility is required to acquire 0.4% of 12 weather-adjusted system peak demand under 16 TAC § 25.181(e)(1)(C) 13 (as Oncor is in program year 2021), the utility shall apply the percentage 14 goal to the weather-adjusted five year average system peak demand. 16 15 TAC § 25.181(e)(3)(B) also states that this annual peak demand goal at the 16 source is to be converted to an equivalent goal at the meter by applying 17 reasonable line loss factors.

18 As shown in WP/MAT/3, the weather-adjusted five year average 19 system peak demand for exempt industrial customers for program year 20 2021 is 478 MW: or (414 MW [2015] + 429 MW [2016] + 486 MW [2017] + 21 539 MW [2018] + 524 MW [2019]) ÷ 5 = 478. Because Oncor is required to 22 acquire 0.4% of weather-adjusted five year average system peak demand 23 in program year 2021, the number of megawatts the demand reduction goal 24 should be adjusted for exempt industrial customers under 16 TAC § 25 25.181(u) is 1.8 MW (including line loss required by the R ule); or (478 MW 26 x .004) x (1-.05655) = 1.8 MW.

## VIII. CALCULATION OF ONCOR'S LINE LOSS FACTOR USED IN DETERMINING ENERGY EFFICIENCY GOALS

29 Q. WHY IS ONCOR PROVIDING THE CALCULATION OF THE LINE LOSS30 FACTOR IN THIS PROCEEDING?

PUC Docket No. \_\_

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1 Α. Line losses are used in the calculation of energy efficiency goals. See the 2 direct testimony of Oncor witness Mr. Jones for more information regarding 3 Oncor's demand reduction and energy savings goals. Line loss factors are 4 used to convert demand goals at the source to demand goals at the meter 5 and to convert demand savings from the meter to the source. Rule 6 25.181(e)(3)(B) now states, in part, "This annual peak demand goal at the 7 source is then converted to an equivalent goal at the meter by applying reasonable line loss factors." 8

- 9 Q. HAS ONCOR CALCULATED THE LINE LOSS FACTOR USED IN 10 DETERMINING ENERGY EFFICIENCY GOALS?
- 11 Yes. Oncor has calculated the line loss factor used in determining energy Α. 12 efficiency goals as shown in my workpaper WP/MAT/4. The calculation 13 uses the actual loss factors used in ERCOT Wholesale Settlement at the 14 time of Oncor annual peak applied to the actual Oncor annual system peak 15 demand by voltage level using load research data adjusted for industrial 16 customers who have claimed the exemption from energy efficiency program 17 participation. The ERCOT distribution loss factors are based on the utility's 18 approved loss factors in effect for the calendar year. Oncor's 2019, 2018 19 and 2017 loss factors are based on its most recent rate case (Docket No. 20 46957) and 2015-16 loss factors are based on the rate case in Docket No. 21 38929. The final calculation is a 5-year average of the annual voltage-22 weighted loss factors adjusted for industrial opt-out. The resulting weighted 23 line loss factor used in calculating the demand reduction goal is 5.655%. 24 This line loss factor is also shown in Mr. Jones direct testimony in Exhibit 25 GDJ-1, page 5, footnote in Table 1.

# IX. <u>CALCULATION OF THE PROPOSED 2021 ENERGY EFFICIENCY</u> <u>COST RECOVERY FACTORS</u>

28 Q. HOW ARE THE PROPOSED ENERGY EFFICIENCY COST RECOVERY
29 FACTORS CALCULATED?

PUC Docket No. \_\_\_\_\_

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Α. 1 The proposed EECRFs are calculated by dividing the Total 2021 Energy 2 Efficiency Costs (column (g) of my Exhibit MAT-4) by the 2021 forecasted 3 opt-out adjusted energy for each energy efficiency rate class (column (f) of 4 my Exhibit MAT-4). These EECRFs are also included in proposed Rider 5 EECRF - Energy Efficiency Cost Recovery Factor (my Exhibits MAT-5) 6 (clean) and MAT-6 (annotated)).

Q. HOW WAS THE 2021 FORECASTED OPT-OUT ADJUSTED ENERGY BILLING UNITS BY ENERGY EFFICIENCY RATE CLASS DETERMINED? Α. The forecasted number of energy billing units by energy efficiency rate class for 2021, adjusted for industrial opt-outs, is based on the information contained in Oncor's 2020 Energy and Demand Plan – 2021 Projections as shown in WP/MAT/3.

CONCLUSION

Χ.

PLEASE SUMMARIZE YOUR DIRECT TESTIMONY.

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Q.

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15 A. Oncor has accurately calculated allocation factors based on the actual 2019 16 energy efficiency program costs by energy efficiency rate class. I have used 17 those factors to allocate the earned performance bonus discussed by Mr. 18 Jones, and I have accurately calculated the amounts by energy efficiency 19 rate class to be recovered through an EECRF. I have also used those same 20 factors to allocate the EECRF proceeding expense, and I have accurately 21 calculated the amounts by energy efficiency rate class to be recovered 22 through an EECRF. I have compared the actual 2019 energy efficiency 23 costs provided by Mr. Jones to the energy efficiency revenues recovered in 24 2019 adjusted for the 2017 performance bonus amount, the 2017 25 (over)/under-collection of energy efficiency costs, and the EECRF 26 proceeding expense incurred in 2017 to correctly calculate the 2019 27 (over)/under-recovery including interest by energy efficiency rate class. I 28 have also accurately calculated the proposed EECRFs on a per kWh basis 29 (reasonably adjusted for the exclusion of certain industrial customers) and 30 have included those factors in Rider EECRF - Energy Efficiency Cost PUC Docket No.



Recovery Factor. The proposed 2021 EECRF will result in the recovery of 1 2 Oncor's: (1) forecasted 2021 energy efficiency program costs; (2) 2019 3 (over)/under-recovered energy efficiency costs including interest; (3) collection of the EECRF proceeding expenses incurred in 2019; (4) 4 5 estimated expenses relating to the Commission's evaluation. measurement, and verification; and, (5) recovery of the earned 2019 energy 6 7 efficiency performance bonus. In addition, I have accurately calculated the 8 line loss factor used in determining Oncor's energy efficiency goals. For all 9 of these reasons (including the evidence provided by Mr. Jones), the 10 proposed Rider EECRF is calculated correctly, is just and reasonable and 11 should be approved. The 2021 EECRF factors should be made effective 12 beginning with bills rendered on and after March 1, 2021.

13 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

14 A. Yes, it does.



# STATE OF TEXAS § SCOUNTY OF DALLAS §

**BEFORE ME**, the undersigned authority, on this day personally appeared Matthew A. Troxle, who, having been placed under oath by me, did depose as follows:

My name is Matthew A. Troxle. I am of legal age and a resident of the State of Texas. The foregoing direct testimony and the attached exhibits offered by me are true and correct, and the opinions stated therein are, to the best of my knowledge and belief, accurate, true and correct.

Matthew A. Troxle

SUBSCRIBED AND SWORN TO BEFORE ME by the said Matthew A. Troxle this  $\underline{28}$  day of May, 2020.



Jeni 7

Notary Public, State of Texas

PUC Docket No. \_\_\_\_\_

Troxle – Direct Oncor Electric Delivery Application for 2021 EECRF



### Application for 2021 Energy Efficiency Cost Recovery Factor

#### List of Matthew A. Troxle's Prior Commission Testimony

#### • Arkansas Public Service Commission:

**Docket No. 10-010-U** – In The Matter Of A Notice Of Inquiry Into Energy Efficiency – March 2010, Rebuttal – April 2010.

**Docket No. 07-081-TF** – In The Matter Of The Application Of CenterPoint Energy Arkansas Gas For Approval Of Its "Quick Start" Energy Efficiency Program, Portfolio And Plan Including Its Cost Recovery Rider – July 2009, Rebuttal – September 2009, Sur-rebuttal – October 2009.

#### Louisiana Public Service Commission:

**Docket No. U-33437** – Report Of Earnings And Return On Equity For The Louisiana Division For The Twelve Months Ending June 30, 2014 For CenterPoint Energy Arkla – June 2016.

**Docket No. U-33438** – Report of Earnings and Return On Equity For The Louisiana Division For The Twelve Months Ending June 30, 2014 For CenterPoint Energy Entex – June 2016.

#### • Mississippi Public Service Commission:

**Docket No. 2018-UN-71** – Notice Of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Mississippi Gas, Of The Filing Of Routine Changes In Its Rate Regulation Adjustment Rider – May 2018.

**Docket No. 2018-UN-72** – Notice Of CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Mississippi Gas, Of The Filing Of Routine Changes In Its Supplemental Growth Rider – May 2018.

#### • Public Utilities Commission Of The State Of Minnesota:

**Docket No. G-008/GR-15-424** – In The Matter Of The Application Of CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Minnesota Gas For Authority To Increase Rates For Natural Gas Utility Service In Minnesota – August 2015, Rebuttal – December 2015, Sur-rebuttal – January 2016.

**Docket No. G-008/GR-13-316** – In The Matter Of The Application Of CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Minnesota Gas For Authority To Increase Rates For Natural Gas Utility Service In Minnesota – August 2013, Rebuttal – December 2013.

**Docket No. G-008/GR-08-1075** – In The Matter Of The Application Of CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Minnesota Gas For Authority To Increase Rates For Natural Gas Utility Service In Minnesota – November 2008, Rebuttal – July 2009.



### Application for 2021 Energy Efficiency Cost Recovery Factor

### List of Matthew A. Troxle's Prior Commission Testimony

#### • Public Utility Commission Of Texas:

**Docket No. 50734 –** Application Of Oncor Electric Delivery Company LLC For Approval to Amend its Distribution Cost Recovery Factor – April 2020.

**Docket No. 50490 –** Application Of Oncor Electric Delivery Company, LLC For Interim Update Of Wholesale Transmission Rates – January 2020.

**Docket No. 49421** – Application Of CenterPoint Energy Houston Electric, LLC For Authority To Change Rates – April 2019, Rebuttal – June 2019.

**Docket No. 44572** – Application Of CenterPoint Energy Houston Electric, LLC For Approval Of A Distribution Cost Recovery Factor Pursuant To P.U.C. Substantive Rule 25.243 – April 2015, Rebuttal – June 2015, Settlement – June 2015.

**Docket No. 42111 –** Complaint Of Nawaid Isa Against Ambit Energy And CenterPoint Energy Houston Electric, LLC – April 2015.

**Docket No. 41906** – Compliance Filing Of CenterPoint Energy Houston Electric, LLC For Approval Of A Revised Tariff For Retail Delivery Service In Compliance With New Substantive Rule 25.133 And Revised Substantive Rule 25.214 – September 2013, Settlement – April 2014.

**Docket No. 41540** – Application Of CenterPoint Energy Houston Electric, LLC, For Approval Of An Adjustment To Its Energy Efficiency Cost Recovery Factor – May 2013.

**Docket No. 40356** – Application Of CenterPoint Energy Houston Electric, LLC, For Approval Of An Adjustment To Its Energy Efficiency Cost Recovery Factor – May 2012.

**Docket No. 39933** – Application Of CenterPoint Energy Houston Electric, LLC, For Interim Update Of Wholesale Transmission Rate Pursuant To P.U.C. Substantive Rule §25.192(h)(1) – November 2011.

**Docket No. 39066 –** Claims For September – December 1999 Period Severed From Docket No. 38780 (Remand Of Docket No. 20381, Proceeding To Modify ERCOT Transmission Rates For 1999 Pursuant To Subst. R. 23.67 – August 2011.

**Docket No. 39633** – Application Of CenterPoint Energy Houston Electric, LLC, For Interim Update Of Wholesale Transmission Rate Pursuant To P.U.C. Substantive Rule §25.192(h)(1) – August 2011.

**Docket No. 39363** – Application Of CenterPoint Energy Houston Electric, LLC, For Approval Of An Adjustment To Its Energy Efficiency Cost Recovery Factor – April 2011, Rebuttal – August 2011.



#### Application for 2021 Energy Efficiency Cost Recovery Factor

#### List of Matthew A. Troxle's Prior Commission Testimony

**Docket No. 38339** – Application Of CenterPoint Electric Delivery Company, LLC, For Authority To Change Rates – June 2010, Rebuttal – October 2010.

**Docket No. 36701** – Petition Of Texas Utility Solutions LLS For Declaratory Order Of Eligibility As A Transmission Service Customer – February 2010.

**Docket No. 32766** – Application Of Southwestern Public Service Company For (1) Authority To Change Rates; (2) Reconciliation Of Its Fuel Costs For 2004 And 2005; (3) Authority To Revise The Semi-Annual Formulae Originally Approved In Docket No. 27751 Used To Adjust Its Fuel Factors; And (4) Related Relief – January 2007.

**Docket No. 32907** – Application Of Entergy Gulf States, Inc. For Determination Of Hurricane Reconstruction Costs – October 2006.

**Docket No. 32093 –** Petition By Commission Staff For A Review Of The Rates Of CenterPoint Energy Houston Electric, LLC Pursuant To PURA §36.151 – August 2006.

**Docket No. 28466** – Application Of Cap Rock Energy Corporation For Electric Service Tariff – August 2005.

**Docket No. 30216** – Notice Of Violation By Cap Rock Energy Of PURA Section 36.004(a) Relating To Equality Of Service And Rates And P.U.C. Subst. R. 25.241(b) Relating To Form And Filing Of Tariff – April 2005, Rebuttal – June 2005.

**Docket No. 30215** – Notice Of Violation By Cap Rock Energy Of P.U.C. Subst. R. 25.28(b) Relating To Bill Payments And Adjustments – April 2005, Rebuttal - June 2005.

**Docket No. 30706** – Application Of CenterPoint Energy Houston Electric, LLC For A Competition Transition Charge (CTC) – March 2005.

**Docket No. 28813** – Petition To Inquire Into The Reasonableness Of The Rates And Services Of Cap Rock Energy Corporation – September 2004.

**Docket No. 28840 –** Application Of AEP Texas Central Company For Authority To Change Rates – February 2004.

**Docket No. 28980** – Petition Of CenterPoint Energy Houston Electric, LLC For Finding That The 40% Threshold Under PURA §39.202(e) Has Been Met For Small Commercial Customers – January 2004.

**Docket No. 28563 –** *Compliance Filing Of Oncor Electric Delivery Company Pursuant To Subst. R. 25.311 Regarding Competitive Meter Ownership – November 2003.* 



#### Application for 2021 Energy Efficiency Cost Recovery Factor

#### List of Matthew A. Troxle's Prior Commission Testimony

**Docket No. 28562** – Compliance Filing And Petition Of CenterPoint Energy Houston Electric, LLC To Provide Competitive Metering Service Credit Pursuant To PUC Subst. R. 25.311 – November 2003.

**Docket No. 28560** – Compliance Filing Of AEP Texas North Company To Provide Competitive Metering Credit – November 2003.

**Docket No. 28559 –** *Compliance Filing Of AEP Texas Central Company To Provide Competitive Metering Credit – November 2003.* 

**Docket No. 28556 –** *Texas-New Mexico Power Company's Compliance Filing To Provide Competitive Metering Credit Pursuant To Subst. R. 25.311 – November 2003.* 

**Docket No. 28585** – Application Of TXU SESCO Energy Services Company To Increase Price To Beat Fuel Factors And Reduce Price To Beat Base Rates – October 2003 – Adopted Testimony of Brian H. Lloyd.

**Docket No. 25421** – Application Of LCRA Transmission Services Corp. To Charge Rates For Transmission And Transformation Utility Cost Of Service – October 2002.

**Docket No. 25429** – Appeal Of Oncor From An Ordinance Of The City Of Allen And Request For Interim Relief – August 2002.

**Docket No. 25960** – Application Of Brazos Electric Power Cooperative, Inc. To Change Rates For Wholesale Transmission Service – Interim Rates Phase – August 2002.

**Docket No. 25874** – Application Of Mutual Energy WTU, LP To Increase Price To Beat Fuel Factors – May 2002.

**Docket No. 24449** – Application Of Southwestern Electric Power Company To Implement The Fuel Factor Component Of Price To Beat Rates – October 2001.

**Docket No. 24336** – Application Of Entergy Gulf States, Inc. For Approval Of Price To Beat Fuel Factor – September 2001.

**Docket No. 24194** – Application Of Texas-New Mexico Power Company To Establish Price To Beat Fuel Factor – August 2001.

**Docket No. 24040** – Application Of TXU Electric Company To Implement Price To Beat Fuel Factors – August 2001.

**Docket No. 23950** – Petition Of Reliant Energy, Inc. To Establish Price To Beat Fuel Factor and Request For Good Cause Exception To Subst. R. 25.41 – July 2001.



#### Application for 2021 Energy Efficiency Cost Recovery Factor

#### List of Matthew A. Troxle's Prior Commission Testimony

**Docket No. 22351** – Application Of Southwestern Public Service For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – February 2001.

**Docket No. 22350** – Application Of TXU Electric Company For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – February 2001.

**Docket No. 22356** – Application Of Entergy Gulf States Inc. For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – January 2001.

**Docket No. 22355** – Application Of Reliant Energy Incorporated For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – December 2000.

**Docket No. 22350** – Application Of TXU Electric Company For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – November 2000.

**Docket No. 22349** – Application Of Texas-New Mexico Power Company For Approval Of Unbundled Cost Of Service Rate Pursuant To PURA §39.201 And Public Utility Commission Substantive Rule §25.344 – ECOM Phase – September 2000.

#### Railroad Commission Of Texas:

**Docket No. 9902** – Statement Of Intent Of CenterPoint Energy Resources Corp., D/B/A CenterPoint Energy Entex And CenterPoint Energy Texas Gas To Increase Rates On A Division Wide Basis In The Houston Division – July 2009, Rebuttal – October 2009.





#### Exhibit MAT-2 Page 1 of 1

#### Oncor Electric Delivery Company LLC Application for 2021 Energy Efficiency Cost Recovery Factor

## Performance Bonus Allocation

(a) Performance <u>Bonus<sup>1</sup></u> \$14,249,500

Performance Bonus for 2019 Energy Efficiency Programs

	(b)	(c)	(d) = (a) * (c) Allocated
	2019 Energy Efficiency	Performance Bonus	Performance
Energy Efficiency Rate Class	Program Costs <sup>2</sup>	Allocation Factors	Bonus
Residential Service	28,112,287	57.38482398%	\$8,177,050
Secondary Service ≤ 10 kW	219,344	0.44774076%	\$63,801
Secondary Service > 10 kW	17,816,505	36.36833259%	\$5,182,306
Primary Service ≤ 10 kW	0	0.0000000%	<b>\$</b> 0
Primary Service > 10 kW			
Distribution Line	1,931,737	3.94320063%	\$561,886
Substation	425,820	0.86921444%	\$123,859
Transmission Service			
Non Profit	483,369	0.98668760%	\$140,598
For Profit	0	0.0000000%	\$0
Lighting Service	0	0.0000000%	\$0
Total	48,989,062	100.0000000%	\$14,249,500

<sup>1</sup>Exhibit GDJ-4 column (h) <sup>2</sup>Workpaper WP/MAT/2 column (c)



#### Exhibit MAT-3 Page 1 of 1

## Oncor Electric Delivery Company LLC Application for 2021 Energy Efficiency Cost Recovery Factor

### EECRF Proceeding Expense Allocation

(a) EECRF Proceeding

Expense<sup>1</sup> \$9,940

EECRF	Proceeding	Expense for	or 2019

	(b)	(c)	(d) = (a) * (c)
		EECRF	
	2019 Energy Efficiency	Proceeding Expense	Allocated EECRF
Energy Efficiency Rate Class	Program Costs <sup>2</sup>	Allocation Factors	Proceeding Expense
Residential Service	28,112,287	57.38482398%	\$5,704
Secondary Service ≤ 10 kW	219,344	0.44774076%	\$45
Secondary Service > 10 kW	17,816,505	36.36833259%	\$3,615
Primary Service ≤ 10 kW	0	0.0000000%	\$0
Primary Service > 10 kW			
Distribution Line	1,931,737	3.94320063%	\$392
Substation	425,820	0.86921444%	\$86
Transmission Service			
Non Profit	483,369	0.98668760%	\$98
For Profit	0	0.0000000%	\$0
Lighting Service	0	0.0000000%	\$0
Total	48,989,062	100.0000000%	\$9,940

<sup>1</sup>Exhibit GDJ-4 column (h) <sup>2</sup>Workpaper WP/MAT/2 column (c)



#### Oncor Electric Delivery Company LLC Application for 2021 Energy Efficiency Cost Recovery Factor

Exhibit MAT-4 Page 1 of 1

#### Calculation of 2021 Energy Efficiency Cost Recovery Factors

						 				2021
			2019	2021	2019	2019	2021		Total	Energy Efficiency
		(Over	)/Under Recovery	Program	Performance	EECRF Proceeding	Billing Determinant	202	1 Energy Efficiency	Cost Recovery
Line	Energy Efficiency Rate Class	Inc	luding Interest <sup>1</sup>	Costs <sup>2</sup>	Bonus <sup>3</sup>	Expense <sup>4</sup>	(kWh)⁵		Costs	Factor (EECRF)
	(a)		(b)	(c)	(d)	(e)	(f)	(g	) = (b)+(c)+(d)+(e)	(h) = (g) / (f)
1	Residential Service	\$	(710,994)	\$ 32,352,036	\$ 8,177,050	\$ 5,704	46,238,895,000	\$	39,823,796	\$ 0.000861
2	Secondary Service ≤ 10 kW	\$	(376,188)	\$ 160,592	\$ 63,801	\$ 45	1,863,086,000	\$	(151,750)	\$ (0.000081)
3	Secondary Service >10 kW	\$	(194,677)	\$ 17,606,709	\$ 5,182,306	\$ 3,615	47,610,022,000	\$	22,597,953	\$ 0.000475
4	Primary Service ≤ 10 kW	\$	(954)	\$ -	\$ -	\$ -	19,924,000	\$	(954)	\$ (0.000048)
5	Primary Service > 10 kW									
6	Distribution Line	\$	(1,240,380)	\$ 1,600,896	\$ 561,886	\$ 392	14,224,133,000	\$	922,794	\$ 0.000065
7	Substation	\$	404,122	\$ 305,836	\$ 123,859	\$ 86	3,437,865,000	\$	833,903	\$ 0.000243
8	Transmission Service									
9	Non Profit	\$	285,227	\$ 330,441	\$ 140,598	\$ 98	1,151,033,000	\$	756,364	\$ 0.000657
10	For Profit	\$	-	\$ -	\$ -	\$ -	16,644,034,000	\$	-	\$ -
11	Lighting Service	\$	-	\$ -	\$ -	\$ -	403,082,000	\$	-	\$ -
12						 				
13	Total	\$	(1,833,844)	\$ 52,356,510	\$ 14,249,500	\$ 9,940		\$	64,782,106	

<sup>1</sup>WP/MAT/2 column (j)

<sup>2</sup>Exhibit GDJ-4

<sup>3</sup>Exhibit MAT-2 column (d)

<sup>4</sup>Exhibit MAT-3 column (d)

<sup>5</sup>Source: Oncor Electric Delivery Company LLC's 2020 Energy and Demand Plan as shown on WP/MAT/3



## 6.1.1.6.3 Rider EECRF - Energy Efficiency Cost Recovery Factor

## **APPLICATION**

Applicable, pursuant to PURA § 39.905(b)(4) and Substantive Rule § 25.182(d), to all eligible customers in energy efficiency rate classes that receive services under the Company's energy efficiency programs.

## **METHOD OF CALCULATION**

An Energy Efficiency Cost Recovery Factor (EECRF) shall be calculated annually and shall equal by energy efficiency rate class the sum of: forecasted energy efficiency costs, any adjustment for past over-recovery or under-recovery of EECRF costs including interest, any approved energy efficiency performance bonus for the previous year, any EECRF proceeding expenses from the previous year, and any applicable evaluation, measurement, and verification costs as determined by the commission; divided by the forecasted billing units for each class in demand or kWh.

#### MONTHLY RATE

Energy Efficiency Cost Recovery Factor (EECRF)

	Residential Service	Secondar	y Service	Ρ	rimary Servio > 10 kW –	ce	Transmiss	Lighting Service	
		≤ 10 kW*	> 10 kW*	≤ 10 kW*	Distribution Line*	> 10 kW - Substation*	Non-Profit	For Profit	
Effective Date	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)
March 1, 2021	0.000861	(0.000081)	0.000475	(0.000048)	0.000065	0.000243	0.000657	0.000000	0.000000
March 1, 2020	0.000739	0.000282	0.000348	0.000243	0.000346	0.000229	0.000052	0.000000	0.000000
March 1, 2019	0.000755	0.000318	0.000414	(0.000062)	0.000235	0.000004	0.000016	0.000000	0.000000
March 1, 2018	0.000760	(0.000114)	0.000444	0.000142	0.000158	(0.000010)	0.000545	0.000000	0.000000
March 1, 2017	0.000780	0.000329	0.000444	(0.000021)	0.000057	(0.000159)	(0.000104)	0.000000	0.000000
March 1, 2016	0.000995	0.001505	0.000459	0.000461	(0.000005)	(0.000046)	0.001335	0.000000	0.000000
March 1, 2015	0.001025	0.000997	0.000353	(0.000065)	0.000756	0.000025	0.000173	0.000000	0.000001
March 1, 2014	0.001014	0.000437	0.000525	(0.000004)	0.000649	0.000680	0.000525	(0.000002)	0.000000
	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)				
Dec. 31, 2012	1.23	0.23	11.59	(2.58)	95.76	130.77	132.02	(1.61)	0.00
Jan. 3, 2012	0.99	0.36	6.65	(0.05)	130.77	130.77	(224.74)	(224.74)	0.00
Dec. 30, 2010	0.91	0.01	8.14	4.79	75.91	185.59	(71.62)	(71.62)	0.00
Dec. 30, 2009	0.89	0.11	9.66	0.06	59.87	720.49	273.71	273.71	0.00
Sept. 17, 2009	0.92	0.22	8.68	0.00	76.27	76.27	443.77	443.77	0.00
Dec. 29, 2008	0.22	(0.79)	2.48	(2.17)	26.17	26.17	(227.52)	(227.52)	(0.17)

\* Excludes those industrial customers taking electric service at distribution voltage qualifying for the exemption pursuant to Substantive Rule § 25.181(u).



6.1.1 Delivery System Charges Applicable: Entire Certified Service Area Effective Date: March 1, 2021

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## NOTICE

This rate schedule is subject to the Company's Tariff and Applicable Legal Authorities.



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Sheet: 6.3 Page 1 of 2 Revision: Fifteen

## 6.1.1.6.3 Rider EECRF - Energy Efficiency Cost Recovery Factor

## **APPLICATION**

Applicable, pursuant to PURA § 39.905(b)(4) and Substantive Rule § 25.182(d), to all eligible customers in energy efficiency rate classes that receive services under the Company's energy efficiency programs.

## **METHOD OF CALCULATION**

An Energy Efficiency Cost Recovery Factor (EECRF) shall be calculated annually and shall equal by energy efficiency rate class the sum of: forecasted energy efficiency costs, any adjustment for past over-recovery or under-recovery of EECRF costs including interest, any approved energy efficiency performance bonus for the previous year, any EECRF proceeding expenses from the previous year, and any applicable evaluation, measurement, and verification costs as determined by the commission; divided by the forecasted billing units for each class in demand or kWh.

#### MONTHLY RATE

Energy Efficiency Cost Recovery Factor (EECRF)

	Residential Service	Secondar	Secondary Service Primary Service > 10 kW					Transmission Service		
	×	≤ 10 kW*	> 10 kW*	≤ 10 kW*	Distribution Line*	> 10 kW ~ Substation*	Non-Profit	For Profit		
Effective Date	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	(\$/kWh)	
March 1, 2021	0.000861	(0.000081)	0.000475	(0.000048)	0.000065	0.000243	0.000657	0.000000	0.000000	
March 1, 2020	0.000739	0.000282	0.000348	0.000243	0.000346	0.000229	0.000052	0.000000	0.000000	
March 1, 2019	0.000755	0.000318	0.000414	(0.000062)	0.000235	0.000004	0.000016	0.000000	0.000000	
March 1, 2018	0.000760	(0.000114)	0.000444	0.000142	0.000158	(0.000010)	0.000545	0.000000	0.000000	
March 1, 2017	0.000780	0.00032 <del>9</del>	0.000444	(0.000021)	0.000057	(0.000159)	(0.000104)	0.000000	0.000000	
March 1, 2016	0.000995	0.001505	0.000459	0.000461	(0.000005)	(0.000046)	0.001335	0.000000	0.000000	
March 1, 2015	0.001025	0.000997	0.000353	(0.000065)	0.000756	0.000025	0.000173	0.000000	0.000001	
March 1, 2014	0.001014	0.000437	0.000525	(0.000004)	0.000649	0.000680	0.000525	(0.000002)	0.000000	
	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	(\$ / Retail Customer)	
Dec. 31, 2012	1.23	0.23	11.59	(2.58)	95.76	130.77	132.02	(1.61)	0.00	
Jan. 3, 2012	0.99	0.36	6.65	(0.05)	130.77	130.77	(224.74)	(224.74)	0.00	
Dec. 30, 2010	0.91	0.01	8.14	4.79	75.91	185.59	(71.62)	(71.62)	0.00	
Dec. 30, 2009	0.89	0.11	9.66	0.06	59.87	720.49	273.71	273.71	0.00	
Sept. 17, 2009	0.92	0.22	8.68	0.00	76.27	76.27	443.77	443.77	0.00	
Dec. 29, 2008	0.22	(0.79)	2.48	(2.17)	26.17	26.17	(227.52)	(227.52)	(0.17)	

\* Excludes those industrial customers taking electric service at distribution voltage qualifying for the exemption pursuant to Substantive Rule § 25.181(u).

FR

98



6.1.1 Delivery System Charges Applicable: Entire Certified Service Area Effective Date: March 1, 2021

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## NOTICE

This rate schedule is subject to the Company's Tariff and Applicable Legal Authorities.



Testimony Workpapers Of Garry D. Jones


0.02738 0.00500 0.00486 0.00087 0.00337 0.55390 0.00141 0.00142 0.00466 0.00355 0.37431 0.01927 **1.00000** 

Rate Code	kW Savings	kWh Savings	Incentive
D0	1,643.01	4,929.30	62,434.95
D1	300.13	900.50	11,404.99
DC	291.87	875.70	11,091.29
IDI	51.91	155.70	1,972.56
DQ	201.93	605.80	7,673.54
EO	33,234.39	99,702.70	1,262,906.24
E6	84.51	253.50	3,211.40
EC	85.05	255.10	3,232.03
EJ	279.58	838.70	10,623.79
EQ	212.96	638.90	8,092.40
ко	22,458.33	67,375.10	853,416.15
LO	1,156.33	3,469.00	43,940.67
Grand Total	60,000.00	180,000.00	2,280,000.00

Rate Code	kW Savings	kWh Savings	Incentive
D0	174.58	523.8	6634.21
D0	26.3	78.9	999.31
D0	37	111	1406.00
DO	66.33	199	2520.63
DO	12.06	36.2	458.39
D0	2.38	7.1	90.52
D0	0.12	0.4	4.68
D0	20.56	61.7	781.43
D0	94.31	282.9	3583.85
DO	17.29	51.9	656.83
D0	-7.29	-21.9	-277.00
D0	9.09	27.3	345.48
D0	2.37	7.1	90.02

Rate Code	kW Savings	kWh Savings	Incentive
D0	71.76	215.3	2726.99
D0	20.15	60.5	765.70
D0	27.33	82	1038.48
DO	15.42	46.3	586.01
D0	26.41	79.2	1,003.62
D0	28.87	86.6	1,097.03
DO	5.77	17.3	219.37
D0	7.12	21.4	270.46
DO	3.57	10.7	135.73
D0	20.68	62.1	786.00
D0	31.17	93.5	1,184.41
D0	7.79	23.4	296.02
DO	103.12	309.4	3,918.52

D0	17.39	52.2	660.84	[	D0	4.34	13	164.91
D0	17.81	53.4	676.64		DO	2.47	7.4	94.00
Rate Code	kW Savings	kWh Savings	Incentive		Rate Code	kW Savings	kWh Savings	Incentive
D0	22.73	68.2	863.72		EO	296.29	888.9	11,258.84
D0	1.3	3.9	49.22		EO	416.32	1248.9	15,820.00
DO	-1.41	-4.2	(53.56)		EO	700.76	2102.3	26,628.85
D0	14.22	42.7	540.31		EO	438.85	1316.6	16,676.32
DO	28.12	84.4	1,068.67		EO	-15.3	-45.9	(581.59
D0	34.16	102.5	1,298.25	[	EO	182.89	548.7	6,949.71
DO	22.18	66.5	842.80		EO	22.19	66.6	843.37
D0	-1.09	-3.3	(41.61)		EO	311.99	936	11,855.66
D0	187.27	561.8	7,116.41	ſ	EO	131.18	393.5	4,984.67
D0	145.48	436.4	5,528.20	ſ	EO	124.82	374.5	4,743.18
D0	42.05	126.2	1,597.97		EO	11.93	35.8	453.50
DO	75.61	226.8	2,873.12		EO	12.65	38	480.82
D0	15.78	47.3	599.61		EO	-7.37	-22.1	(280.05
D0	17.45	52.3	662.91	ſ	EO	253.5	760.5	9,633.13
D0	64.14	192.4	2,437.22		EO	135.82	407.5	5,161.32
D0	108.75	326.3	4,132.63		EO	843.96	2531.9	32,070.57
D1	86.32	259	3,280.21		EO	39.7	119.1	1,508.54
D1	115.12	345.4	4,374.66	[	EO	192.99	579	7,333.58
D1	30.12	90.4	1,144.56	ſ	EO	180.55	541.6	6,860.86
D1	68.57	205.7	2,605.56		EO	-4.25	-12.8	(161.59
DC	9.05	27.2	344.01		EO	2.64	7.9	100.18
DC	282.82	848.5	10,747.28		EO	209.64	628.9	7,966.45
DJ	51.91	155.7	1,972.56		EO	1303.91	3911.7	49,548.54
DQ	153.89	461.7	5,847.79	ſ	EO	31.43	94.3	1,194.32
DQ	26.81	80.4	1,018.92	Ē	EO	564.05	1692.2	21,434.04
DQ	21.23	63.7	806.82	ľ	EO	227.46	682.4	8,643.51
EO	608.25	1824.8	23,113.58	ľ	EO	181.68	545	6,903.82
EO	373.24	1119.7	14,182.94		EO	78.35	235.1	2,977.35

WP/GDJ/1 Page 2 of 44



EO	259.33	778	9,854.60
EO	1043.8	3131.4	39,664.33
EO	1170.27	3510.8	44,470.20
EO	203.68	611	7,739.90
EO	319.88	959.6	12,155.37
Rate Code	kW Savings	kWh Savings	Incentive
EO	85.15	255.5	3,235.75
EO	1423.12	4269.4	54,078.74
EO	736.01	2208	27,968.45
EO	319.35	958	12,135.19
EO	62.79	188.4	2,386.14
EO	17.18	51.5	652.79
EO	-15.77	-47.3	(599.40)
EO	171.28	513.9	6,508.82
EO	63.83	191.5	2,425.43
EO	55.81	167.4	2,120.73
EO	68.32	205	2,596.10
EO	22.83	68.5	867.58
EO	40.35	121	1,533.13
EO	408.79	1226.4	15,534.03
EO	83.23	249.7	3,162.65
EO	73.26	219.8	2,783.96
EO	50.29	150.9	1,911.18
EO	14.23	42.7	540.80
EO	21.66	65	822.95
EO	22.28	66.9	846.79
EO	113.29	339.9	4,305.15
EO	363.13	1089.4	13,798.98
EO	20.59	61.8	782.60
EO	1384.79	4154.4	52,621.96
EO	135.53	406.6	5,150.24
EO	4.31	12.9	163.85

EO	22.82	68.4	866.98
EO	61.94	185.8	2,353.73
EO	44.99	135	1,709.53
EO	290.88	872.7	11,053.62
EO	526.38	1579.1	20,002.25
Rate Code	kW Savings	kWh Savings	Incentive
EO	37.94	113.8	1,441.72
EO	-7.61	-22.8	(289.24)
EO	65.53	196.6	2,490.20
EO	91.75	275.2	3,486.45
EO	391.52	1174.6	14,877.90
EO	64.78	194.3	2,461.56
EO	53.41	160.2	2,029.48
EO	45.22	135.6	1,718.22
EO	69.32	208	2,634.28
EO	981.42	2944.3	37,293.97
EO	51.31	153.9	1,949.90
EO	58.78	176.3	2,233.76
EO	24.21	72.6	920.16
EO	57.59	172.8	2,188.42
EO	31.27	93.8	1,188.43
EO	-19.32	-58	(734.35)
EO	527.52	1582.6	20,045.89
EO	311.17	933.5	11,824.31
EO	68.98	206.9	2,621.16
EO	61.02	183.1	2,318.93
EO	53.43	160.3	2,030.24
EO	3.33	10	126.66
EO	80.3	240.9	3,051.35
EO	41.58	124.8	1,580.22
EO	68.25	204.8	2,593.64
EO	-3.62	-10.9	(137.49)

WP/GDJ/1 Page 3 of 44



EO	711.75	2135.2	27,046.48
EO	21.33	64	810.40
EO	72.54	217.6	2,756.42
EO	63.08	189.2	2,397.07
EO	61.13	183.4	2,322.86
EO	26.66	80	1,013.25
EO	625.86	1877.6	23,782.66
Rate Code	kW Savings	kWh Savings	Incentive
EO	23.74	71.2	902.20
EO	47.7	143.1	1,812.63
EO	145.41	436.2	5,525.66
EO	37.11	111.3	1,410.17
EO	17.35	52.1	659.46
EO	144.38	433.1	5,486.34
EO	48.24	144.7	1,833.12
EO	36.37	109.1	1,382.20
EO	60.22	180.7	2,288.49
EO	26.96	80.9	1,024.40
EO	-0.57	-1.7	(21.73)
EO	21.91	65.7	832.43
EO	52.5	157.5	1,994.97
EO	14.11	42.3	536.18
EO	57.82	173.5	2,197.10
EO	658.28	1974.8	25,014.49
EO	26.69	80.1	1,014.30
EO	50.92	152.8	1,935.07
EO	11.8	35.4	448.51
EO	350.39	1051.2	13,314.95
EO	30.07	90.2	1,142.51
EO	43.14	129.4	1,639.15
EO	68.37	205.1	2,598.20
EO	40.76	122.3	1,548.86

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	EO	335.7	1007.1	12,756.73
	EO	-80.77	-242.3	(3,069.30)
Γ	EO	287.46	862.4	10,923.37
Γ	EO	42.03	126.1	1,597.20
Γ	EO	14.31	42.9	543.68
Γ	EO	23.32	69.9	886.01
Γ	EO	20.49	61.5	778.80
Γ	Rate Code	kW Savings	kWh Savings	Incentive
	EO	12.47	37.4	473.72
	EO	39.72	119.2	1,509.46
	EO	30.47	91.4	1,157.72
Γ	EO	25.9	77.7	984.25
Γ	EO	18.09	54.3	687.51
Γ	EO	3.38	10.1	128.51
Γ	EO	2.31	6.9	87.67
	EO	-4.69	-14.1	(178.34)
	EO	202.91	608.7	7,710.63
	EO	51.79	155.4	1,967.88
	EO	60.1	180.3	2,283.84
Γ	EO	883.75	2651.3	33,582.66
	EO	62.22	186.7	2,364.38
	EO	92.08	276.2	3,498.95
	EO	34.02	102.1	1,292.68
	EO	53.5	160.5	2,032.85
	EO	32.97	98.9	1,252.96
	EO	32.81	98.4	1,246.87
Ĺ	EO	68.09	204.3	2,587.41
	EO	68.47	205.4	2,601.77
	EO	4.53	13.6	172.11
	EO	17.23	51.7	654.56
	EO	45.43	136.3	1,726.35
	EO	-9.86	-29.6	(374.82)

WP/GDJ/1 Page 4 of 44



EO	18.45	55.4	701.13
EO	50.8	152.4	1,930.28
EO	1179.3	3537.9	44,813.42
EO	74.37	223.1	2,826.11
EO	48.87	146.6	1,856.99
EO	34.94	104.8	1,327.77
EO	377.24	1131.7	14,334.99
EO	30.66	92	1,164.89
EO	32.4	97.2	1,231.08
Rate Code	kW Savings	kWh Savings	Incentive
EO	103.27	309.8	3,924.09
EO	345.35	1036.1	13,123.35
EO	480.53	1441.6	18,260.12
EO	504.09	1512.3	19,155.26
EO	54.65	163.9	2,076.65
EO	63	189	2,393.90
EO	35.26	105.8	1,339.89
EO	819.54	2458.6	31,142.48
EO	168.7	506.1	6,410.71
EO	84.29	252.9	3,202.92
EO	29.76	89.3	1,130.74
EO	161.78	485.3	6,147.68
EO	30.61	91.8	1,163.34
EO	20.84	62.5	791.75
EO	-0.21	-0.6	(7.86)
EO	20.95	62.8	796.02
EO	45.21	135.6	1,718.09
EO	63.06	189.2	2,396.45
EO	13.41	40.2	509.60
EO	120.65	362	4,584.77
EO	79.24	237.7	3,011.31
EO	52.81	158.4	2,006.95

EO	36.22	108.7	1,376.35
EO	39.34	118	1,494.83
EO	-4.39	-13.2	(166.98)
EO	64.54	193.6	2,452.56
EO	69.78	209.3	2,651.63
EO	94.15	282.4	3,577.54
EO	48.94	146.8	1,859.84
EO	46.76	140.3	1,776.96
EO	29.63	88.9	1,125.77
Rate Code	kW Savings	kWh Savings	Incentive
EQ	115.49	346.5	4,388.60
КО	-4.63	-13.9	(176.10)
КО	-52.76	-158.3	(2,004.94)
КО	1079.59	3238.8	41,024.30
КО	422.93	1268.8	16,071.16
КО	933.5	2800.5	35,472.88
КО	148.92	446.8	5,659.06
ко	278.58	835.7	10,586.13
КО	2388.51	7165.5	90,763.24
ко	4903.53	14710.6	186,334.14
КО	2368.46	7105.4	90,001.46
КО	1390.13	4170.4	52,824.87
КО	1037.19	3111.6	39,413.05
КО	1699.25	5097.8	64,571.65
КО	390.61	1171.8	14,843.26
КО	190.74	572.2	7,248.20
КО	1205.16	3615.5	45,795.95
КО	594.45	1783.4	22,589.24
КО	283.95	851.8	10,790.01
КО	948.2	2844.6	36,031.75
КО	1027.77	3083.3	39,055.35
КО	1224.25	3672.8	46,521.51

WP/GDJ/1 Page 5 of 44



EO	106.35	319.1	4,041.33
EO	744.2	2231.9	28,279.42
E6	-0.43	-1.3	(16.25)
E6	84.94	254.8	3,227.65
EC	10.55	31.6	400.89
EC	74.5	223.5	2,831.14
EJ	129.12	387.3	4,906.38
EJ	150.46	451.4	5,717.41
EQ	93.46	280.4	3,551.38
EQ	4.01	12	152.42

LO	1556.14	4668.4	59,133.46
LO	-399.81	-1199.4	(15,192.80)
Grand Total	60,000.00	180,000.00	\$2,280,000.00

## 2019 Commercial Solar By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive	
BO	78.09	248,547.60	101,880.58	0.03702
D0	901.93	2,719,959.60	1,124,821.00	0.40874
DC	96.42	308,383.80	126,164.68	0.04585
ſQ	272.02	856,543.20	352,628.65	0.12814
DQ	366.59	1,217,691.50	490,745.46	0.17833
EO	353.50	1,146,414.50	466,423.20	0.16949
D1	47.45	136,428.20	58,324.32	0.02119
D6	25.14	90,408.20	30,943.04	0.01124
Grand Total	2,141.14	6,724,376.60	2,751,930.92	1.00000

Rate Code	kW Savings	kWh Savings	Incentive
во	8.97	29,781.5	\$12,332.30
во	0.95	4,903.5	\$1,748.10
BO	5.89	18,990.0	\$7,954.20
во	6.46	20,647.4	\$8,678.80
во	4.40	16,253.6	\$6,465.40
во	45.80	141,093.7	\$57,425.68
во	5.62	16,877.9	\$7,276.10
D0	91.26	231,697.3	\$76,182.30
D0	36.60	107,373.4	\$46,756.20
D0	63.03	190,977.5	\$82,050.80
D0	6.68	23,801.3	\$9,593.90
D0	2.73	10,572.7	\$4,133.30
D0	62.85	177,328.1	\$78,514.90
D0	47.99	156,402.2	\$65,239.80
D0	5.25	19,802.4	\$7,815.10
D0	38.56	109,033.5	\$48,229.00
D0	30.54	81,682.2	\$37,019.90
D0	27.38	97,747.9	\$39,365.50
D0	24.12	94,522.7	\$36,795.90

Rate Code	kW Savings	kWh Savings	Incentive
D0	89.71	268,069.1	\$115,837.30
D0	92.62	288,140.2	\$122,459.80
D0	31.29	95,563.5	\$40,921.60
D0	91.77	257,755.6	\$101,298.50
DO	21.61	74,267.9	\$30,000.00
D0	37.37	105,538.5	\$46,711.40
DO	48.02	164,559.0	\$66,000.00
DO	40.20	107,868.7	\$48,821.10
D0	12.35	57,255.9	\$21,074.70
D1	38.03	107,628.8	\$45,997.92
D1	9.42	28,799.4	\$12,326.40
D6	17.68	57,480.3	\$18,628.84
D6	7.46	32,927.9	\$12,314.20
DC	27.69	82,725.6	\$35,750.80
DC	21.40	78,416.8	\$31,274.40
DC	47.33	147,241.4	\$59,139.48
LD	18.86	59,430.5	\$25,124.10
LD	91.89	290,661.0	\$122,698.50
LD	10.17	32,983.4	\$13,785.30

WP/GDJ/1 Page 7 of 44



## 2019 Commercial Solar By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
DI	29.39	99,095.1	\$40,786.70
ID	90.80	274,588.2	\$108,452.25
LD	16.19	52,268.3	\$21,885.70
ſ	14.72	47,516.7	\$19,896.10
DQ	91.94	299,763.9	\$125,000.00
DQ	13.26	43,124.2	\$18,005.60
DQ	80.73	252,381.5	\$107,047.70
DQ	2.94	9,824.9	\$4,060.20
DQ	69.97	226,422.8	\$94,712.20
DQ	76.86	280,367.1	\$98,633.56
DQ	15.80	57,102.5	\$22,892.70
DQ	15.09	48,704.6	\$20,393.50
EO	85.62	300,340.7	\$121,762.40
EO	91.99	276,841.1	\$119,273.10
EO	91.99	283,696.6	\$108,283.10
EO	83.90	285,536.1	\$117,104.60
Grand Total	1,972.89	6,194,060.30	\$2,531,183.54

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Rate Code	kW Savings	kWh Savings	Incentives	
B0	0.29	887.40	128.09	0.00042
D0	416.78	2,108,780.90	220,548.12	0.72346
DJ	5.38	70,667.20	8,304.04	0.02724
DQ	56.84	94,334.00	25,723.52	0.08438
EO	92.83	490,485.90	50,147.96	0.1645
Grand Total	572.12	2,765,155.40	304,851.72	1.00000

Rate Code	kW Savings	kWh Savings	Incentive
BO	0.29	887.40	\$128.09
D0	(1.27)	(11,090.10)	(\$628.90)
D0	-	(56.70)	(\$3.34)
D0	0.02	28.70	\$5.78
D0	0.03	101.60	\$9.71
D0	0.03	114.30	\$13.15
D0	0.03	59.60	\$11.39
D0	0.03	113.10	\$14.40
D0	0.03	123.20	\$16.21
D0	0.04	159.60	\$21.06
D0	0.05	150.70	\$21.32
D0	0.06	221.60	\$17.82
D0	0.07	202.70	\$30.50
D0	0.08	228.10	\$20.58
D0	0.08	170.30	\$17.89
D0	0.08	324.20	\$25.39
D0	0.08	177.70	\$31.68
D0	0.08	227.80	\$33.14
D0	0.08	237.70	\$20.85

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.09	235.10	\$36.38
D0	0.09	291.70	\$40.94
D0	0.10	402.90	\$44.74
D0	0.10	356.00	\$40.98
DO	0.11	386.20	\$52.44
D0	0.11	417.40	\$54.91
D0	0.11	413.00	\$54.00
D0	0.12	507.50	\$54.65
D0	0.12	285.80	\$41.33
D0	0.12	412.70	\$56.80
DO	0.12	345.20	\$45.54
D0	0.12	499.10	\$54.05
D0	0.12	388.80	\$48.29
D0	0.12	428.40	\$57.03
D0	0.12	1,034.40	\$97.10
D0	0.12	475.40	\$52.96
DO	0.13	623.10	\$62.33
D0	0.13	483.50	\$54.24
D0	0.13	269.40	\$49.82

WP/GDJ/1 Page 9 of 44



D0	0.08	312.50	\$34.36
D0	0.09	296.00	\$41.95
D0	0.09	277.60	\$40.11
Rate Code	kW Savings	kWh Savings	Incentive
D0	0.13	298.00	\$43.20
D0	0.13	244.00	\$41.70
D0	0.13	342.30	\$53.43
D0	0.13	432.20	\$51.59
D0	0.14	152.50	\$43.36
D0	0.14	425.80	\$53.94
D0	0.15	601.60	\$76.72
D0	0.15	493.20	\$68.78
D0	0.15	572.50	\$74.40
D0	0.16	568.00	\$76.64
D0	0.17	471.90	\$63.10
D0	0.17	789.90	\$80.82
D0	0.17	380.60	\$39.61
D0	0.17	658.90	\$73.66
D0	0.17	587.90	\$48.85
D0	0.17	655.80	\$83.70
D0	0.17	697.30	\$74.41
D0	0.17	618.50	\$81.77
D0	0.17	661.60	\$83.13
D0	0.17	645.60	\$82.59
D0	0.17	478.60	\$71.63
D0	0.18	538.60	\$78.53
D0	0.19	664.20	\$88.48
D0	0.19	517.40	\$80.24
D0	0.19	401.40	\$63.16
D0	0.20	534.50	\$73.22
D0	0.20	654.80	\$78.70

D0	0.13	414.90	\$50.33
D0	0.13	494.40	\$39.39
DO	0.13	393.80	\$49.39

Rate Code	kW Savings	kWh Savings	Incentive
DO	0.21	865.40	\$106.16
D0	0.22	771.10	\$89.68
D0	0.22	760.30	\$62.03
DO	0.22	844.00	\$94.12
D0	0.23	804.10	\$94.83
DO	0.23	730.10	\$104.21
DO	0.23	746.00	\$90.44
D0	0.23	927.20	\$70.41
D0	0.23	660.10	\$97.61
D0	0.24	667.10	\$101.63
DO	0.25	962.80	\$107.95
DO	0.26	758.10	\$98.11
DO	0.26	804.90	\$100.78
DO	0.26	810.00	\$101.07
DO	0.26	908.30	\$105.43
D0	0.27	613.50	\$92.28
DO	0.27	1,207.10	\$124.40
D0	0.27	750.50	\$113.05
DO	0.28	979.80	\$130.91
DO	0.29	1,052.80	\$139.38
DO	0.29	953.70	\$80.43
D0	0.29	1,216.70	\$129.34
DO	0.29	1,061.40	\$120.94
D0	0.29	1,031.50	\$136.78
D0	0.30	981.20	\$118.21
DO	0.30	1,172.90	\$130.63
D0	0.30	983.30	\$82.90



D0	0.20	659.20	\$91.95
D0	0.21	596.60	\$78.37
D0	0.21	1,052.20	\$104.72
D0	0.21	749.40	\$99.21
D0	0.21	1,832.20	\$171.85

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.31	1,134.10	\$129.52
D0	0.31	1,195.40	\$133.74
DO	0.31	975.30	\$138.97
D0	0.31	743.90	\$122.57
D0	0.31	1,180.90	\$152.43
D0	0.32	1,170.70	\$133.97
D0	0.32	1,156.80	\$152.98
D0	0.32	1,269.40	\$160.23
DO	0.32	1,225.40	\$157.88
D0	0.32	2,749.50	\$156.75
D0	0.33	1,118.30	\$132.34
D0	0.33	1,839.00	\$174.93
DO	0.33	1,096.00	\$131.89
DO	0.33	848.40	\$135.50
DO	0.33	1,264.90	\$162.61
D0	0.33	1,048.20	\$147.26
D0	0.34	1,194.30	\$139.14
DO	0.34	1,059.10	\$151.55
DO	0.34	834.20	\$136.87
DO	0.35	1,549.20	\$161.15
DO	0.35	2,334.10	\$236.35
DO	0.37	1,237.70	\$147.57
DO	0.38	1,229.90	\$150.43
DO	0.38	1,072.00	\$98.30
DO	0.42	1,259.50	\$160.23

D0	0.30	878.90	\$79.08
D0	0.30	873.80	\$129.32
DO	0.30	1,175.80	\$149.98
D0	0.30	1,170.80	\$147.82
DO	0.31	1,147.50	\$149.83

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.43	1,249.80	\$186.47
D0	0.43	2,485.40	\$266.01
D0	0.44	1,386.50	\$171.58
D0	0.44	1,465.90	\$201.63
D0	0.44	1,606.80	\$210.35
D0	0.45	1,236.00	\$164.80
D0	0.45	2,274.70	\$223.41
D0	0.46	1,567.50	\$185.71
D0	0.46	1,389.50	\$200.64
D0	0.46	1,412.80	\$203.18
D0	0.47	1,314.30	\$173.67
D0	0.47	1,531.00	\$130.09
D0	0.47	1,784.10	\$200.83
D0	0.47	1,819.20	\$232.84
D0	0.48	1,819.80	\$203.24
D0	0.48	3,259.30	\$328.39
D0	0.48	1,479.30	\$184.91
D0	0.48	1,771.20	\$230.98
D0	0.49	1,403.80	\$183.45
D0	0.49	1,493.40	\$132.11
D0	0.49	2,505.10	\$244.58
DO	0.49	1,182.30	\$194.43
D0	0.49	1,653.90	\$225.50
D0	0.49	1,877.20	\$209.82
DO	0.49	1,514.90	\$217.53

WP/GDJ/1 Page 11 of 44

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DO	0.43	1,617.00	\$181.47
DO	0.43	1,613.00	\$182.60
D0	0.43	1,610.10	\$181.35
D0	0.43	1,573.50	\$179.53
DO	0.43	1,256.70	\$162.27
DO	0.43	1,268.70	\$114.17
D0	0.43	1,268.70	\$185.52

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.51	1,713.40	\$203.45
D0	0.51	2,502.80	\$286.86
D0	0.52	1,839.70	\$245.87
D0	0.53	1,342.30	\$131.03
D0	0.53	1,721.20	\$209.71
D0	0.53	1,793.90	\$213.57
D0	0.54	2,064.20	\$230.08
D0	0.54	2,050.90	\$229.07
D0	0.54	1,544.40	\$232.17
D0	0.54	1,771.00	\$214.44
D0	0.55	2,203.40	\$275.94
D0	0.55	1,975.00	\$262.10
D0	0.55	2,099.90	\$269.78
D0	0.56	1,468.90	\$200.49
D0	0.56	2,079.90	\$235.04
D0	0.56	2,082.40	\$236.26
D0	0.57	1,888.80	\$225.98
D0	0.57	2,037.70	\$269.64
DO	0.57	1,740.70	\$218.98
D0	0.57	1,661.30	\$247.05
D0	0.57	1,819.90	\$255.78
D0	0.57	1,786.40	\$255.26
D0	0.57	2,175.00	\$280.76

D0	0.50	1,928.50	\$150.64
D0	0.50	1,777.10	\$144.60
D0	0.50	1,739.80	\$235.51
D0	0.50	1,872.30	\$242.68
D0	0.50	3,636.40	\$360.08
D0	0.51	1,594.50	\$196.67
D0	0.51	1,980.00	\$220.12

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.59	1,641.30	\$218.09
DO	0.59	1,900.50	\$162.14
D0	0.59	1,784.80	\$259.73
D0	0.59	3,574.20	\$326.55
D0	0.59	1,986.60	\$236.32
D0	0.59	2,590.80	\$310.98
DO	0.59	2,010.40	\$275.01
D0	0.59	1,946.40	\$164.24
D0	0.59	2,131.20	\$244.20
D0	0.59	2,027.50	\$239.03
DO	0.59	2,275.20	\$252.78
DO	0.59	2,244.40	\$288.68
DO	0.60	2,303.80	\$256.26
DO	0.60	2,314.80	\$257.26
D0	0.60	2,276.60	\$293.34
D0	0.60	2,302.40	\$294.60
DO	0.60	1,825.20	\$263.74
DO	0.60	2,174.90	\$174.92
D0	0.60	2,495.00	\$308.88
DO	0.61	2,325.40	\$259.72
DO	0.61	2,118.30	\$173.42
DO	0.61	2,826.30	\$332.33
D0	0.61	2,202.00	\$291.44



D0	0.57	2,185.60	\$281.46
D0	0.58	1,838.80	\$226.43
D0	0.58	2,237.60	\$249.56
DO	0.58	1,863.80	\$228.61
D0	0.58	2,156.80	\$244.95
D0	0.58	1,793.20	\$256.15
D0	0.58	1,814.80	\$224.68
D0	0.58	2,183.20	\$282.56
D0	0.58	1,631.80	\$213.53

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.62	2,364.40	\$303.78
D0	0.62	3,234.40	\$360.40
D0	0.63	2,436.40	\$310.62
D0	0.64	2,279.80	\$263.39
D0	0.64	2,158.90	\$179.70
D0	0.64	2,474.40	\$275.20
D0	0.65	2,492.40	\$278.44
D0	0.65	2,079.50	\$177.83
D0	0.65	2,294.20	\$307.64
D0	0.65	4,108.40	\$425.74
D0	0.65	1,960.50	\$284.07
D0	0.66	3,921.30	\$417.07
D0	0.66	2,561.40	\$327.30
D0	0.66	2,164.20	\$261.94
D0	0.67	2,599.20	\$332.32
D0	0.67	2,566.40	\$286.72
D0	0.67	2,412.50	\$319.64
D0	0.67	2,021.80	\$294.67
D0	0.67	2,597.60	\$288.88
D0	0.68	2,595.70	\$334.59
D0	0.69	2,246.20	\$272.52

D0	0.61	1,672.50	\$257.68
DO	0.61	2,219.50	\$253.29
D0	0.61	1,965.10	\$239.15
DO	0.62	2,211.90	\$294.59
D0	0.62	3,811.70	\$347.84
D0	0.62	2,397.60	\$306.78
D0	0.62	2,072.80	\$285.46
D0	0.62	2,370.00	\$304.14
D0	0.62	2,740.90	\$285.97

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.71	4,050.80	\$436.76
D0	0.72	2,048.10	\$267.07
DO	0.72	2,481.00	\$292.14
D0	0.72	2,430.50	\$289.64
D0	0.73	3,270.80	\$339.68
D0	0.73	2,834.70	\$362.40
DO	0.74	3,132.50	\$334.02
DO	0.74	2,856.00	\$222.26
D0	0.75	2,015.80	\$272.59
DO	0.77	2,902.50	\$228.78
D0	0.77	2,485.10	\$303.80
D0	0.77	2,731.00	\$364.65
D0	0.77	2,484.40	\$347.24
D0	0.78	2,906.20	\$377.44
D0	0.78	4,300.00	\$470.84
D0	0.78	3,630.70	\$425.60
D0	0.79	2,357.50	\$298.74
D0	0.80	2,781.20	\$325.84
D0	0.80	2,620.80	\$363.39
DO	0.80	6,279.70	\$526.25
D0	0.83	2,912.20	\$391.79



D0	0.69	3,214.60	\$376.24
D0	0.69	2,591.50	\$335.62
D0	0.70	2,582.90	\$293.57
D0	0.70	2,447.20	\$285.44
D0	0.70	2,642.50	\$296.22
D0	0.70	3,977.20	\$428.85
D0	0.70	2,370.80	\$324.95
D0	0.70	2,707.20	\$301.74
D0	0.71	2,401.40	\$285.76
D0	0.71	2,676.20	\$300.36
D0	0.71	2,563.80	\$338.29

Rate Code	kW Savings	kWh Savings	Incentives
D0	0.96	5,948.80	\$539.40
D0	1.01	3,866.20	\$497.60
D0	1.02	3,654.70	\$421.72
D0	1.06	3,489.40	\$483.42
D0	1.07	3,775.70	\$439.29
D0	1.08	3,093.50	\$403.33
D0	1.08	4,101.00	\$528.64
D0	1.08	6,515.60	\$688.39
D0	1.15	3,865.70	\$322.49
D0	1.17	4,423.60	\$570.98
D0	1.18	3,767.20	\$462.40
D0	1.18	4,477.00	\$577.04
D0	1.20	4,581.80	\$589.00
D0	4.96	41,462.00	\$2,384.29
D0	5.48	48,120.10	\$5,016.42
D0	6.64	58,235.60	\$6,071.93
D0	9.90	86,665.00	\$9,039.74
DO	11.34	94,818.40	\$7,782.36
DO	20.09	161,876.50	\$13,438.59

D0	0.84	2,907.50	\$393.59
D0	0.87	4,017.30	\$412.07
D0	0.88	3,309.20	\$373.68
D0	0.89	3,163.80	\$420.56
DO	0.90	5,572.60	\$506.68
D0	0.90	3,466.00	\$443.38
DO	0.91	3,356.50	\$438.68
DO	0.92	3,085.20	\$368.04
D0	0.92	3,550.60	\$394.06
D0	0.92	3,142.70	\$426.83
D0	0.96	2,386.00	\$337.56

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