

HEE continued -

KTANG ENERGY SAVER .INC
Lighthouse Solar Austin
Lonestar energy solutions
Longhorn Solar
Lu and Sons
Major Solar & Electrical Services
Meridian Solar, Inc.
Native Inc
NCH Corporation
New Day Energy, LLC
NRG Conservation, Inc. DBA Energy Experts
NRG Pros
NRG RESIDENTIAL SOLAR SOLUTIONS, LLC
NRG Savers
Ormeno Enterprises LLC DBA M&P Energy Solutions
P D Construction Company dba Elect Saver
Performance Contracting Inc
Plan B Remodeling Systems
Prime Insulation & Construction
REC Solar Commercial Corporation
Revolve Solar LLC
River Co
RonRush Investment DBA Universal Solar System
San Miguel and Associates, Inc.
Saving Energreen Houses, LLC
Saving Energreen Houses, LLC
Saving Energy Solutions LLC
Self Reliant Solar LLC
Simple Power Systems LLC
SoCore Installation Services LLC
Solar CenTex LLC
Solar Haven Energy L L C
SolarCity Corporation
SolarLife Technology LLC
Solarview Inc
SRV Solutions
Sun City Solar Energy-North Texas LLC
SunPower Corporation, Systems

Target Corp
Texas Responsible Energy & Efficiency
Texas Sun Power LLC
Texas Watt Savers
Texoma Energy Solutions
The Energy Shop, Inc.
The Insulation Guy
TheGreenHomeMakeover.com
TRANSOFT CORPORATION LLC
Trusted Energy Services
TXE Solutions LLC DBA Service City Electric
Victor Reyes
Wells Solar & Electrical Services LLC
Yella Rose Development Corporation

Healthcare MTP

Willdan Energy Solutions

Residential Demand Response MTP

Ecobee Inc.
EnergyHub
Reliant Energy Retail Services, LLC
Whisker Labs, Inc.

Commercial Solar PV SOP

1 Sun Solutions LLC
Advent Systems INC., DBA SolarTechs
AITEO7 LLC
Amos Electric Supply, Inc.
Axium Solar Inc.
Aztec Renewable Energy, Inc
Byrd electric
Circle L Solar
City of Dallas
City of Snyder
CRsolar Energy Solutions / CR-Invent LLC
Davis Electric Co.
DFW SOLAR ELECTRIC, LLC
Earthwise Constructors Group Corp
Ecolectrics LLC
Ecological Estates LLC
Electric Distribution & Design Systems
Entero Energy LLC
Facility Solutions Group
Freedom Solar LLC
Good Faith Energy
GoSolarGo, Inc.
Graybar Electric Company, Inc.
Green Generation Solutions LLC
Green Ox Energy Solutions, LLC
Green Wolf Energy Inc
Greenbelt Solar LLC
GreenLife Technologies, Inc.
Hobson Air Conditioning Inc
Holtek Enterprises Inc. dba Holtek Solar
INFINITY SOLAR SOLUTIONS LLC
Kingdom Consulting Services, DBA Elite Energy
Partner
Kosmos Solar
Lighthouse Solar Austin
Longhorn Solar
Major Solar & Electrical Services
Max Electric
Meridian Solar, Inc.
Native Inc
NCH Corporation
Nia Power LLC
performance contracting inc
R. Williams Electric, Inc.
Renewable Republic
RonRush Investment DBA Universal Solar System
Self Reliant Solar LLC
Smartworld energy Inc
Solar CenTex LLC
SolarCity Corporation
SolarLife Technology LLC
Solartime USA LLC
Solarugreen Corporation
Sun City Solar Energy-North Texas LLC
Sunfinity Solar-TX, LLC
Target Corp
Texas Responsible Energy & Efficiency
Texoma Energy Solutions
The Energy Shop, Inc.
TreeHouse, Inc
Unger Electric LLC
Vision Solar LLC
W Energies Group Solar One, LLC.
Willdan Energy Solutions
Wright-Way Solar Technologies, LLC

Residential Solar PV SOP

I Sun Solutions LLC	Longhorn Solar
Advent Systems INC., DBA SolarTechs	Major Solar & Electrical Services
AffordaSolar Inc	Max Electric
AITEO7 LLC	Native Inc
Alba Energy LLC	New Day Energy, LLC
Alternatex Solutions, LLC	Now Energy LLC
Amos Electric Supply, Inc.	NRG RESIDENTIAL SOLAR SOLUTIONS, LLC
Axium Solar Inc.	PetersenDean Texas INC
Aztec Renewable Energy, Inc	Revolve Solar LLC
Byrd electric	RonRush Investment DBA Universal Solar System
Circle L Solar	Second Energy LLC
CRSolar Energy Solutions / CR-Invent LLC	Self Reliant Solar LLC
Davis Electric Co.	Simple Power Systems LLC
DFW SOLAR ELECTRIC, LLC	Solar CenTex LLC
Earthwise Constructors Group Corp	Solar Haven Energy L L C
Ecolectrics LLC	Solar Side Up LLC
Ecological Estates LLC	Solarch Integration LLC
Electric Distribution & Design Systems	SolarCity Corporation
Facility Solutions Group	SolarLife Technology LLC
Fisher Renewables LLC	SOLARTEK ENERGY OF AUSTIN
Freedom Solar LLC	Solarugreen Corporation
Good Faith Energy	Solarview Inc
GoSolarGo, Inc.	Speir Innovations LLC
Green NRG, Inc.	Sun City Solar Energy-North Texas LLC
Green Ox Energy Solutions, LLC	Sunvergence Energy, LLC.
Green Wolf Energy Inc	Sustainable Services LLC
Greenbelt Solar LLC	Texas Responsible Energy & Efficiency
GreenLife Technologies, Inc.	Texas Solar Power Company
Hemco Electrical Contractors, Inc.	Texas Sun Power LLC
HEsolar LLC	Texoma Energy Solutions
Hobson Air Conditioning Inc	The Energy Shop, Inc.
Holtek Enterprises Inc. dba Holtek Solar	Tower Association Crue
i.e.s. residential	Trusted Energy Services
INFINITY SOLAR SOLUTIONS LLC	Vision Solar LLC
Kosmos Solar	Wells Solar & Electrical Services LLC
Lighthouse Solar Austin	
Longhorn Solar	
Major Solar & Electrical Services	
Marc Jones Construction LLC	
Max Electric	
Native Inc	

Hard-to-Reach SOP

1 Way Services AKA One Way Services	GS CONSERVATION LLC
5 Star Energy Savers	HML Energy Solutions LLC
A Better Insulation	Home Energy Efficiency
A Plus Energy Solution LLC	Home Energy Program
A&E HOME INSULATION	Home Improvement Systems, Inc.
Affordable Solarscreens & Blinds Inc	Home Save Energy
Allied Energy Savers	INSUL ATTIC CORPORATION
AllSave Energy Solutions, LLC	JP Energy Conservation
AllSave Energy Solutions, LLC	Lonestar energy solutions
B & B TEXAS CONTRACTORS	Lu and Sons
B and D Efficiency	NRG Conservation, Inc. DBA Energy Experts
Better Than Lights	NRG Pros
Chuck hart's energy connection	NRG Savers
Classica la fe	P D Construction Company dba Elect Saver
Conergy	Plan B Remodeling Systems
Crouch Capital, DBA ACT Home Energy Specialists	River Co
D & R Insulation	San Miguel and Associates, Inc.
Dallas Insulation LLC	Saving Energreen Houses, LLC
DeRocher Associates	Saving Energy Solutions LLC
Designs By Marlene	SRV Solutions
E2 Conservation	TheGreenHomeMakeover.com
Ecoenergy Conservation Group, LLC	TRANSOFT CORPORATION LLC
ECOGREEN ENERGY SOLUTIONS	TXE Solutions LLC DBA Service City Electric
Eden Energy Solutions, LLC	Victor Reyes
Electric Reducer	Yella Rose Development Corporation
EnerChoice LLC	
Energy Audits Of Texas	
ENERGY CONSERVATION CONCEPTS	
Energy Efficient Measures LLC	
Energy Improvements	
Energy Saver Pro	
Excel 5-Star Energy Inc.	
FREE Specialists, LLC	
Garden of Eden	
GNS Energy Efficiency	
Gonzalez Insulation	
Green Conservation	

Commercial SOP (Basic)

24 HOUR LTD	Christ United Methodist Church
2C Technology Inc.	Clear Blue Energy Corp.
7-Eleven Inc	Cole Air Conditioning Company Inc
A Federal Source, LLC	Colorado Lighting, Inc.
ABM Building Services	Conergy
Accurate Electrical Systems, Inc.	Cracker Barrel Old Country Store INC
acm services llc	Cree Inc.
Adair Mechanical Services	Creekwood Frisco Gaylord, LLC
Aelux, LLC	Creekwood Frisco Gaylord, LLC
Agape electrical services llc	Curtis H. Stout, Inc.
AGES Consult,dba Alternative Green Energy Solutions	Curtis H. Stout, Inc.
AllSave Energy Solutions, LLC	cVal Innovations LLC
Ameresco Dallas LLC	cVal Innovations LLC
American Energy Efficiencies Inc.	Dallas County Community College District
Ameritech Energy Corporation	Dalworth Lighting Services
Amos Electric Supply, Inc.	Daniels Air, Inc.
Aquila Environmental LLC	DFW International Airport
Aquila Environmental LLC	DFW International Airport
ARIES CORPORATION	DFW LED Lights LLC
Ari-Tex Management, Inc.	Earthwise Constructors Group Corp
ARJO Engineers, Inc.	ECOGREEN ENERGY SOLUTIONS
Artex Automotive Sales II, LLC	Ector County
ASG Energy, LLC	E-MC Electrical, Inc.
B & B TEXAS CONTRACTORS	Encentiv Energy, Inc.
Bambu Energy	ENCORE WIRE CORPORATION
Benchmark Group Inc.	Energy & Automation, Inc
Better Than Lights	Energy Audits Of Texas
BHHG Energy, LLC	Energy Conservation and Supply Inc.
BIDENERGY INC	Energy Management Collaborative, llc
Big D Electric LLC	Energy MPS
Bowen Electric Co., Inc.	Energy Solutions of Texas
Boxer Property Management Corp	Energy Source, LLC
Boxer Property Management Corp	Energy Wise LED Solutions, LLC
Brite Innovations Group, LLC	EnerNet Solutions LLC
Capstone Mechanical LP	Entech Sales & Service
Carrier Corporation	EnviroLite LLC
Carrier Corporation	Environmental Lighting Service, LLC
Chateau Energy Solutions LLC	ERO ELECTRICAL SERVICES LLC

Commercial SOP (Basic) continued-

ESA Energy Systems Associates, Inc.
Essential Lighting Solutions, Inc.
Estes, McClure & Associates, Inc.
E-TEX ENERGY SOLUTIONS LLC
Everman ISD
EWP Ventures, LLC
Ex3 Facility Solutions, LLC
Facilities Service Group, Inc.
Facility Innovations Group
Facility Solutions Group
Faith Family Academy
Federal Lighting Illumination Capital, LLC
Flying X Capital LLC
Forza Energy LLC
FREE Specialists, LLC
Garden of Eden
General Services Administration
Gentzler Electric
Graybar Electric Company, Inc.
Green Energy Texas Tech
Green Generation Solutions LLC
Green Light Southwest
Green Property Advisors, LLC
GREEN ZONE
Greenleaf Energy Solutions LLC
Groom Energy Solutions LLC
Hargis Electric LLC.
Hargrove-Neel, Inc.
Harrison, Walker & Harper, LP
Heat Transfer Solutions, Inc.
Heritage Institute of Sustainability
Hillhouse Power Solutions
Home Energy Efficiency
Home Improvement Systems, Inc.
Home Save Energy
Howard County
Hulen Mall, LLC

Hurst Electric, LP
Inergy Solutions
INFINITY SOLAR SOLUTIONS LLC
Irving ISD
James L West Presbyterian Special Care center
Jim Whitten Roof Consultants, LLC
JJA Inc.
JKD Construct Co. dba Mr E Electric of Grand Prairie
Johnson Controls Inc
Joseph & Sammel, dba Southwest Electric & Supply
JP Energy Conservation
Kevco Electrical Construction, Inc.
KirEnergy Services LLC
Kroger
K Wik Energy Solutions, LLC
Landlord Utility Mgmt. dba JEC Energy Savings
LED2 Solutions, LLC
Light Pioneers LLC
LightSource Unlimited
Linda Gregory, LLC dba Energy Saving Strategies
Littles and Associates, LLC
LNS Energy Solution
Luke Motor Company II, LLC
Managed Energy Systems, LLC
Mascot Mechanical LLC
MCD Services, LLC/DBA: DEC
McKinstry Essention, LLC
MD Engineering LP, LLP
Mechanical Solutions, Inc
MHSC Energy Management LLC
MJK Lighting LLC
Monterey Energy, Inc.
National Lighting Electrical Services Inc
New Academy Holding Company
NexRev, Inc
NORDCO, INC.
NRG Conservation, Inc. DBA Energy Experts

Commercial SOP (Basic) continued-

Obtainable Energy	Stephenville City Electric Inc
OnPoint, LLC	Stephenville City Electric Inc
On-Site Lighting & Survey LLC	Stiff's 5 Star Energy Conservation Services
OpSolve, LLC	Summit Electric Supply Co., Inc.
OpTerra Energy Services Inc.	Summit Energy Services, Inc.
PBK Architects, Inc.	SUNDOG LED, LLC
Peak Power Partners	Sunrise Development LLC
Pepco Energy Services, Inc.	Sylvania Lighting Services
Perry Office Products, Inc.	Synergy Power Solutions USA
Pflugerville ISD	Target Corp
Phillips Electrical Services, Inc.	TCDFW Industrial Development, Inc.
Plan B Remodeling Systems	TDIndustries
Polaris LED	Templeton Electric Company
Premium Waters Inc	TEMSCO, Inc.
ProSource Power LLC	Terrell Independent School District
Quinlan ISD	Texal Energy LLC
R. Williams Electric, Inc.	Texas AirSystems LLC
RaceTrac Petroleum, Inc	Texas Maintenance Solutions
Ralen electric	Texas Tech University Health Sciences Center
Rapid Power Management LLC	Texas Turnkey Energy Solutions, LLC.
Realwinwin, Inc.	The Brandt Companies, LLC
Reed, Wells, Benson and Company	THE HILLSHIRE BRANDS COMPANY
Regency Enterprises Inc. dba Regency Lighting	The Neiman Marcus Group LLC.
Restaurant Lighting Concepts	The Ogni Group
RetroLum LED, LLC.	The Reynolds Company
Rexel Holdings USA Corp	The Right Choice Heating & Air Inc
Richardson ISD	Titan LED, Inc
Ridglea Electric Inc.	Trammell bell, llc
San Miguel and Associates, Inc.	Trane
Saving Energreen Houses, LLC	Trinity Lighting and Electrical Services
Schneider Electric Buildings Americas Inc	Triton Supply
Schneider Electric Buildings Americas Inc	TTESCO
Shirley Air Inc.	TXU Energy Retail Company LLC
Simon Property Group-Broadway Square	US Energy Management
SmartWatt Energy Inc	Us Energy Recovery
Smith Engineering PLLC	Valderrama Energy Services
Southwest Energy Solutions	Vandergriff Automotive II LLC

Commercial SOP (Basic) continued-

Vandergriff Chevrolet II, LLC
Vandergriff Hyundai II, LLC
Verizon Corporate Services Group, Inc.
Voss Lighting
W. Douglass Distributing LTD
Waxahachie ISD
Waypoint Lighting LLC
WESCO Distribution, Inc.
Whatabrands LLC
Willdan Energy Solutions
WLS Lighting Systems
Word of God Fellowship, Inc, DBA Daystar Television
Network
World Energy Resources Corp
Xtra Light Manufacturing
YES LED Lighting, Inc
Zoom Air, Inc.

**APPENDIX D: SHARYLAND 2017 ENERGY EFFICIENCY
FUNDING AND PROGRAM RESULTS**

Sharyland Funding for Calendar Year 2017

PY2017	Total Projected Budget	Numbers of Customers Participating or Installed Measures	Actual Funds Expended (Incentives)	Actual Funds Expended (Admin)	Total Funds Expended
Commercial	\$193,477	6	\$107,197	\$16,760	\$123,957
Commercial SOP	\$11,500	0	\$0	\$2,070	\$2,070
Load Management SOP	\$45,977	1	\$25,664	\$10,939	\$36,603
Customized Commercial MTP	\$80,000	3	\$36,801	\$3,751	\$40,552
Open for Small/Medium Business MTP	\$56,000	2	\$44,732	\$0	\$44,732
Residential	\$182,263	152	\$158,299	\$40,864	\$199,162
Residential SOP	\$182,263	152	\$158,299	\$40,864	\$199,162
Hard-To-Reach	\$135,015	58	\$119,335	\$28,025	\$147,359
Hard-To-Reach SOP	\$66,459	32	\$57,681	\$14,890	\$72,571
Targeted Low Income Weatherization Program	\$68,556	26	\$61,653	\$13,135	\$74,788
Research & Development 2017 EECRF Proceeding Costs	\$10,862			\$15,299	\$15,299
EM&V Support	\$0			\$46,179	\$46,179
EM&V (TetraTech)	\$0			\$237	\$237
EM&V (TetraTech)	\$8,986			\$5,476	\$5,476
Total Annual Expenditures	\$530,603	216	\$384,831	\$152,839	\$537,670

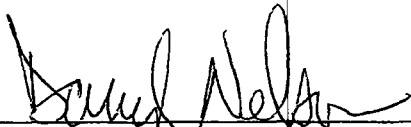
Sharyland Program Results for Calendar Year 2017

Program	Sector	kWh	kW
Customized Commercial MTP	Commercial	78,568	24.79
Residential SOP	Residential	554,920	218.30
Hard-to-Reach SOP	Residential	127,683	43.05
Targeted Low-Income Weatherization Program	Low Income	67,386	35.42
Load Management SOP	Commercial	1,284	642.00
Total		829,841	963.56

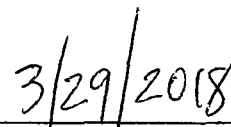
* Program results are the evaluated savings provided by the PUCT Evaluator.

ATTESTATION STATEMENT

Pursuant to P.U.C. Subst. R. 25.71(d), I attest that the information provided in this 2018 Energy Efficiency Plan and Report has been reviewed internally for accuracy and I have the authority to make this report on behalf of Oncor Electric Delivery.



Darryl Nelson



Date

Oncor's Energy Efficiency Expenses by Rate Code for 2017 Program Year

a	b	c	d	e	f	g	h
	Residential	Secondary ≤ 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, DR, E0, E1, E4, EC, EJ, EQ	Rate Code J0, K0, K1, K4	Rate Code L0	Rate Code N0, N4	Total
Home Energy Efficiency SOP	\$13,601,539	\$0	\$0	\$0	\$0	\$0	\$13,601,539
Solar PV - Residential	\$2,907,720	\$0	\$0	\$0	\$0	\$0	\$2,907,720
Residential Demand Response MTP	\$1,058,334	\$0	\$0	\$0	\$0	\$0	\$1,058,334
Hard-to-Reach SOP	\$6,885,721	\$0	\$0	\$0	\$0	\$0	\$6,885,721
Targeted Weatherization Low-Income SOP (SB 712)	\$5,462,411	\$0	\$0	\$0	\$0	\$0	\$5,462,411
Commercial Load Management SOP	\$0	\$0	\$1,900,560	\$639,116	\$39,068	\$0	\$2,578,744
Commercial SOP (Basic)	\$0	\$504,671	\$8,037,031	\$608,894	\$0	\$138,406	\$9,289,002
Commercial SOP (Custom)	\$0	\$0	\$1,573,252	\$956,418	\$0	\$0	\$2,529,670
Solar PV - Commercial	\$0	\$260,460	\$2,085,181	\$0	\$0	\$0	\$2,345,641
Small Business Direct Install	\$0	\$0	\$1,802,706	\$0	\$0	\$0	\$1,802,706
Healthcare MTP	\$0	\$0	\$358,253	\$37,659	\$0	\$0	\$395,912
Program Expenses by Rate Code	\$29,915,725	\$765,131	\$15,756,983	\$2,242,087	\$39,068	\$138,406	\$48,857,400
Verification (EM&V) Costs for Evaluation of Program Year 2016	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total (Program Expenses by Rate Code + EM&V Costs)	\$29,915,725	\$765,131	\$15,756,983	\$2,242,087	\$39,068	\$138,406	\$48,857,400

Program totals include incentives, administration costs and research and development costs as shown in workpaper WP/MRS/3 (total program costs are shown in column (g))

Commercial program rate class allocations are based on rate codes found in WP/MRS/1

EM&V costs incurred in Program Year 2017 were for the evaluation of the 2016 Program Year and are being recovered in the 2018 EECRF

Oncor's 2017 Energy Efficiency Performance Bonus Calculation

2017 Net Benefits	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
Residential											
Solar PV SOP (Residential)	\$2,945,785	1,854.12	6,241,771.2	30.0	\$1,098.88	\$0.54793	\$2,037,455.39	\$3,420,053.69	\$5,457,509.08	\$2,511,724.08	1.85
Targeted Low-Income SOP	\$5,497,580	3,195.71	5,317,765.0				\$2,580,774.56	\$2,140,978.00	\$4,721,752.55	-\$775,827.45	0.86
Air Infiltration		151.66	251,928.8	11.0	\$630.32	\$0.31429	\$95,594.33	\$79,178.70	\$174,773.03		
Ceiling Insulation		295.12	487,270.6	25.0	\$1,020.77	\$0.50898	\$301,249.64	\$248,010.99	\$549,260.63		
Heat Pump		2,391.21	3,989,153.1	15.0	\$775.99	\$0.38693	\$1,855,555.05	\$1,543,523.01	\$3,399,078.06		
Energy Star Refrigerator		71.68	115,308.7	16.0	\$807.38	\$0.40258	\$57,873.00	\$46,420.98	\$104,293.97		
Showerheads		15.10	21,705.7	10.0	\$588.26	\$0.29332	\$8,882.73	\$6,366.72	\$15,249.44		
Water Heater Jacket		14.87	25,609.4	7.0	\$446.28	\$0.22253	\$6,636.18	\$5,698.86	\$12,335.04		
Water Heater Pipe Insulation		19.87	34,038.3	13.0	\$707.40	\$0.35273	\$14,056.04	\$12,006.33	\$26,062.37		
Wall Insulation		126.88	212,307.0	25.0	\$1,020.77	\$0.50898	\$129,515.30	\$108,060.02	\$237,575.31		
Energy Star Window		103.05	169,727.2	25.0	\$1,020.77	\$0.50898	\$105,190.35	\$86,387.75	\$191,578.10		
Floor Insulation		5.93	10,220.2	25.0	\$1,020.77	\$0.50898	\$6,053.17	\$5,201.88	\$11,255.04		
Window A/C		0.34	496.0	8.0	\$496.40	\$0.24752	\$168.78	\$122.77	\$291.55		
Hard-to-Reach SOP	\$6,966,705	11,082.95	16,823,965.4				\$9,870,765.25	\$7,639,802.00	\$17,510,567.25	\$10,543,862.25	2.51
Aerators		0.61	1,217.7	10.0	\$588.26	\$0.29332	\$358.84	\$357.18	\$716.01		
Air Infiltration		2,830.20	3,097,557.6	11.0	\$630.32	\$0.31429	\$1,783,931.66	\$973,531.38	\$2,757,463.04		
Ceiling Insulation		6,876.58	11,107,720.3	25.0	\$1,020.77	\$0.50898	\$7,019,406.57	\$5,653,607.48	\$12,673,014.04		
Heat Pump		1,373.29	2,611,660.3	15.0	\$775.99	\$0.38693	\$1,065,659.31	\$1,010,529.72	\$2,076,189.03		
Showerheads		2.10	5,474.7	10.0	\$588.26	\$0.29332	\$1,235.35	\$1,605.84	\$2,841.19		
Energy Star Window		0.17	334.8	25.0	\$1,020.77	\$0.50898	\$173.53	\$170.41	\$343.94		
Residential Demand Response MTP	\$1,088,521	24,151.39	144,903.7	1.0	\$75.46	\$0.03763	\$1,822,463.89	\$5,452.73	\$1,827,916.62	\$739,395.62	1.68
Home Energy Efficiency SOP	\$13,773,367	26,135.13	44,290,620.0				\$20,901,324.98	\$18,143,919.31	\$39,045,244.29	\$25,271,877.29	2.83
Air Infiltration		7,405.26	8,093,458.5	11.0	\$630.32	\$0.31429	\$4,667,683.48	\$2,543,693.07	\$7,211,376.56		
Ceiling Insulation		5,755.72	10,263,852.0	25.0	\$1,020.77	\$0.50898	\$5,875,266.30	\$5,224,095.39	\$11,099,361.70		
Heat Pump		9,843.25	18,472,951.6	15.0	\$775.99	\$0.38693	\$7,638,263.57	\$7,147,739.16	\$14,786,002.73		
Central A/C		3,046.88	7,300,441.5	18.0	\$864.93	\$0.43128	\$2,635,337.92	\$3,148,534.41	\$5,783,872.33		
Energy Star Window		74.86	132,172.3	25.0	\$1,020.77	\$0.50898	\$76,414.84	\$67,273.06	\$143,687.90		
Ground Source Heat Pump		9.09	27,361.8	20.0	\$916.13	\$0.45681	\$8,327.62	\$12,499.14	\$20,826.77		
Water Heater Jacket		0.07	382.3	7.0	\$446.28	\$0.22253	\$31.24	\$85.07	\$116.31		
Residential Total	\$30,271,958	66,419.30	72,819,025.3				\$37,212,784.06	\$31,350,205.73	\$68,562,989.79	\$38,291,031.79	2.26

Oncor's 2017 Energy Efficiency Performance Bonus 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											
Commercial SOP (Custom)	\$2,571,483	2,552.31	16,591,708.1				\$2,206,436.70	\$6,776,977.55	\$8,983,414.25	\$6,411,931.25	3.49
Deemed Cooling		288.69	2,319,621.3	15.0	\$775.99	\$0.38693	\$224,020.55	\$897,531.07	\$1,121,551.62		
Deemed Cooling		165.81	246,411.0	20.0	\$916.13	\$0.45681	\$151,903.52	\$112,563.01	\$264,466.52		
Deemed Cooling		299.79	2,241,111.9	25.0	\$1,020.77	\$0.50898	\$306,016.64	\$1,140,681.13	\$1,446,697.77		
Lighting Controls		117.41	1,283,682.1	10.0	\$588.26	\$0.29332	\$69,067.61	\$376,529.63	\$445,597.24		
Lighting		825.28	6,656,486.3	15.0	\$775.99	\$0.38693	\$640,409.03	\$2,575,594.24	\$3,216,003.27		
Metered Cooling		23.77	-14,894.8	20.0	\$916.13	\$0.45681	\$21,776.41	-\$6,804.09	\$14,972.32		
Motor		169.31	1,956,549.5	15.0	\$775.99	\$0.38693	\$131,382.87	\$757,047.70	\$888,430.56		
Motor/VFD		116.85	737,477.7	15.0	\$775.99	\$0.38693	\$90,674.43	\$285,352.25	\$376,026.68		
Solar PV		391.40	1,165,263.1	30.0	\$1,098.88	\$0.54793	\$430,101.63	\$638,482.61	\$1,068,584.24		
Thermal Storage		154.00	0.0	20.0	\$916.13	\$0.45681	\$141,084.02	\$0.00	\$141,084.02		
Commercial Load Management SOP	\$2,609,143	72,060.38	216,181.0	1.0	\$75.46	\$0.03763	\$5,437,676.27	\$8,134.89	\$5,445,811.17	\$2,836,668.17	2.09
Commercial SOP (Basic)	\$9,437,247	11,381.49	67,247,365.3				\$9,049,132.04	\$27,421,225.54	\$36,470,357.58	\$27,033,110.58	3.86
Deemed Cooling		1,517.48	6,588,770.1	15.0	\$775.99	\$0.38693	\$1,177,549.31	\$2,549,392.81	\$3,726,942.12		
Deemed Cooling		572.44	2,589,903.7	20.0	\$916.13	\$0.45681	\$524,429.46	\$1,183,093.91	\$1,707,523.37		
Deemed Cooling		859.92	12,763,833.2	25.0	\$1,020.77	\$0.50898	\$877,780.54	\$6,496,535.82	\$7,374,316.36		
Lighting		30.40	158,788.7	16.0	\$807.38	\$0.40258	\$24,544.35	\$63,925.15	\$88,469.51		
Lighting		7,033.42	38,442,969.0	15.0	\$775.99	\$0.38693	\$5,457,863.59	\$14,874,738.00	\$20,332,601.58		
Lighting		227.10	1,550,319.6	9.0	\$543.67	\$0.27109	\$123,467.46	\$420,276.14	\$543,743.60		
Lighting		279.07	1,378,151.9	15.5	\$791.91	\$0.39487	\$220,998.32	\$544,190.84	\$765,189.16		
Lighting Controls		524.22	2,539,347.5	10.0	\$588.26	\$0.29332	\$308,377.66	\$744,841.41	\$1,053,219.07		
Air Handler Control		42.19	692,357.0	15.0	\$775.99	\$0.38693	\$32,739.02	\$267,893.69	\$300,632.71		
Master Metered Apts-Attic Insulation		295.25	542,924.6	25.0	\$1,020.77	\$0.50898	\$301,382.34	\$276,337.76	\$577,720.11		
Solar PV SOP (Commercial)	\$2,395,611	1,488.01	4,917,962.5	30.0	\$1,098.88	\$0.54793	\$1,635,144.43	\$2,694,699.19	\$4,329,843.62	\$1,934,232.62	1.81
Small Business Direct Install MTP	\$1,826,434	1,190.15	7,129,854.4				\$866,314.78	\$2,605,133.55	\$3,471,448.34	\$1,645,014.34	1.90
Lighting Controls		0.01	77.1	10.0	\$588.26	\$0.29332	\$5.88	\$22.61	\$28.50		
Lighting		261.05	1,408,644.4	9.0	\$543.67	\$0.27109	\$141,925.05	\$381,869.41	\$523,794.46		
Lighting		714.31	4,516,652.5	15.0	\$775.99	\$0.38693	\$554,297.42	\$1,747,628.35	\$2,301,925.77		
Lighting		214.78	1,204,480.4	15.5	\$791.91	\$0.39487	\$170,086.43	\$475,613.18	\$645,699.61		
Healthcare MTP	\$465,816	138.04	1,202,059.90				\$10,416.50	\$45,233.51	\$55,650.01	-\$410,165.99	0.12
Retro-Commission		138.04	1,202,059.9	1.0	\$75.46	\$0.03763	\$10,416.50	\$45,233.51	\$55,650.01		
Commercial Total	\$19,305,734	88,810.38	97,305,131.2				\$19,205,121	\$39,551,404	\$58,756,525	\$39,450,790.97	3.04
R&D	\$0										
EM&V	\$0										
Grand Total	\$49,577,692	155,229.68	170,124,156.5				\$56,417,904.78	\$ 70,901,609.97	\$127,319,514.75	\$77,741,822.75	2.57

Program costs include incentives, administration expenses, R&D, EM&V and rate case expenses, as shown in column (i) of WP/MRS/6

Oncor's 2017 Energy Efficiency Performance Bonus Calculation

2017 Minimum Goal MW	69.40
2017 Achieved Goal MW	155.23
Percentage Over Goal	123.67%

Bonus Calculation % of Net Benefits (1% of every 2% the Demand Goal is exceeded)	0.6184
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Bonus Based on 61.84% of 2017 Total Net Benefits (\$77,741,823 x 6184)	\$48,075,543
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Bonus Capped at 10% of 2017 Total Net Benefits (\$77,741,823 x .1)	\$7,774,182
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Total Bonus	\$7,774,182
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Net Benefit Calculation	
\$127,319,515	Total Avoided Costs
<u>-\$49,577,692</u>	- Sum of Total Program Costs
\$77,741,823	= Net Benefits

Avoided Costs are calculated using the present value of Commission-approved initial avoided capacity cost of \$80/kW and initial avoided energy cost of \$0.03989/kWh as stated in Rule § 25.181(d)(2) and (d)(3), and based on measure life, 2% escalation rate and 8.14% discount rate as noted in § Rule 25.181(h)(5)

Oncor's Total 2019 EECRF Request by Rate Code

a	b	c	d	e	f	g	h
	Residential	Secondary ≤ 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	\$11,685,990	\$0	\$0	\$0	\$0	\$0	\$11,685,990
Solar PV SOP - Residential	\$2,307,195	\$0	\$0	\$0	\$0	\$0	\$2,307,195
Hard-to-Reach SOP	\$6,889,561	\$0	\$0	\$0	\$0	\$0	\$6,889,561
Targeted Weatherization Low-Income SOP (SB 712)	\$5,036,312	\$0	\$0	\$0	\$0	\$0	\$5,036,312
Residential Demand Response MTP	\$1,489,410	\$0	\$0	\$0	\$0	\$0	\$1,489,410
Retail Platform - Residential	\$1,490,998	\$0	\$0	\$0	\$0		\$1,490,998
Commercial SOP (Basic)	\$0	\$479,346	\$7,633,710	\$578,338	\$0	\$131,461	\$8,822,855
Commercial SOP (Custom)	\$0	\$0	\$2,358,420	\$1,433,739	\$0	\$0	\$3,792,159
Commercial Load Management SOP	\$0	\$0	\$1,982,310	\$666,606	\$40,748	\$0	\$2,689,664
Solar PV SOP - Commercial	\$0	\$264,566	\$2,118,050	\$0	\$0	\$0	\$2,382,616
Small Business Direct Install MTP	\$0	\$0	\$3,680,919	\$0	\$0	\$0	\$3,680,919
Retail Platform - Commercial	\$0	\$0	\$90,720	\$0	\$0	\$0	\$90,720
Total Estimated Program Expenses by Rate Code	\$28,899,466	\$743,912	\$17,864,129	\$2,678,683	\$40,748	\$131,461	\$50,358,399
2017 EECRF Under Recovery							\$37,177
Municipal Rate Case Expenses for 2017 in Docket No. 47235							\$8,971
Rate Case Expenses for 2017 in Docket No. 47248							\$44,330
Requested Energy Efficiency Performance Bonus for 2017							\$7,774,182
Total 2019 EECRF Request							\$58,223,059

Program totals include incentives, administration costs, research and development costs and evaluation, measurement & verification costs as shown in WP/MRS/4 (column f). Commercial program rate class allocator are based on rate codes found in WP/MRS/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 2017

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%

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

Oncor's 2017 Energy Efficiency Cost Effectiveness Calculation

2017 Net Benefits	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
Residential											
Solar PV SOP (Residential)	\$3,533,160	1,854.12	6,241,771.2	30.0	\$1,098.88	\$0.54793	\$2,037,455.39	\$3,420,053.69	\$5,457,509.08	\$1,924,349.08	1.54
Targeted Low-Income SOP	\$6,593,770	3,195.71	5,317,765.0				\$2,580,774.56	\$2,140,978.00	\$4,721,752.55	-\$1,872,017.45	0.72
Air Infiltration		151.66	251,928.8	11.0	\$630.32	\$0.31429	\$95,594.33	\$79,178.70	\$174,773.03		
Ceiling Insulation		295.12	487,270.6	25.0	\$1,020.77	\$0.50898	\$301,249.64	\$248,010.99	\$549,260.63		
Heat Pump		2,391.21	3,989,153.1	15.0	\$775.99	\$0.38693	\$1,855,555.05	\$1,543,523.01	\$3,399,078.06		
Energy Star Refrigerator		71.68	115,308.7	16.0	\$807.38	\$0.40258	\$57,873.00	\$46,420.98	\$104,293.97		
Showerheads		15.10	21,705.7	10.0	\$588.26	\$0.29332	\$8,882.73	\$6,366.72	\$15,249.44		
Water Heater Jacket		14.87	25,609.4	7.0	\$446.28	\$0.22253	\$6,636.18	\$5,698.86	\$12,335.04		
Water Heater Pipe Insulation		19.87	34,038.3	13.0	\$707.40	\$0.35273	\$14,056.04	\$12,006.33	\$26,062.37		
Wall Insulation		126.88	212,307.0	25.0	\$1,020.77	\$0.50898	\$129,515.30	\$108,060.02	\$237,575.31		
Energy Star Window		103.05	169,727.2	25.0	\$1,020.77	\$0.50898	\$105,190.35	\$86,387.75	\$191,578.10		
Floor Insulation		5.93	10,220.2	25.0	\$1,020.77	\$0.50898	\$6,053.17	\$5,201.88	\$11,255.04		
Window A/C		0.34	496.0	8.0	\$496.40	\$0.24752	\$168.78	\$122.77	\$291.55		
Hard-to-Reach SOP	\$8,355,831	11,082.95	16,823,965.4				\$9,870,765.25	\$7,639,802.00	\$17,510,567.25	\$9,154,736.25	2.10
Aerators		0.61	1,217.7	10.0	\$588.26	\$0.29332	\$358.84	\$357.18	\$716.01		
Air Infiltration		2,830.20	3,097,557.6	11.0	\$630.32	\$0.31429	\$1,783,931.66	\$973,531.38	\$2,757,463.04		
Ceiling Insulation		6,876.58	11,107,720.3	25.0	\$1,020.77	\$0.50898	\$7,019,406.57	\$5,653,607.48	\$12,673,014.04		
Heat Pump		1,373.29	2,611,660.3	15.0	\$775.99	\$0.38693	\$1,065,659.31	\$1,010,529.72	\$2,076,189.03		
Showerheads		2.10	5,474.7	10.0	\$588.26	\$0.29332	\$1,235.35	\$1,605.84	\$2,841.19		
Energy Star Window		0.17	334.8	25.0	\$1,020.77	\$0.50898	\$173.53	\$170.41	\$343.94		
Residential Demand Response MTP	\$1,305,566	24,151.39	144,903.7	1.0	\$75.46	\$0.03763	\$1,822,463.89	\$5,452.73	\$1,827,916.62	\$522,350.62	1.40
Home Energy Efficiency SOP	\$16,519,707	26,135.13	44,290,620.0				\$20,901,324.98	\$18,143,919.31	\$39,045,244.29	\$22,525,537.29	2.36
Air Infiltration		7,405.26	8,093,458.5	11.0	\$630.32	\$0.31429	\$4,667,683.48	\$2,543,693.07	\$7,211,376.56		
Ceiling Insulation		5,755.72	10,263,852.0	25.0	\$1,020.77	\$0.50898	\$5,875,266.30	\$5,224,095.39	\$11,099,361.70		
Heat Pump		9,843.25	18,472,951.6	15.0	\$775.99	\$0.38693	\$7,638,263.57	\$7,147,739.16	\$14,786,002.73		
Central A/C		3,046.88	7,300,441.5	18.0	\$864.93	\$0.43128	\$2,635,337.92	\$3,148,534.41	\$5,783,872.33		
Energy Star Window		74.86	132,172.3	25.0	\$1,020.77	\$0.50898	\$76,414.84	\$67,273.06	\$143,687.90		
Ground Source Heat Pump		9.09	27,361.8	20.0	\$916.13	\$0.45681	\$8,327.62	\$12,499.14	\$20,826.77		
Water Heater Jacket		0.07	382.3	7.0	\$446.28	\$0.22253	\$31.24	\$85.07	\$116.31		
Residential Total	\$36,308,034	66,419.30	72,819,025.3				\$37,212,784.06	\$31,350,205.73	\$68,562,989.79	\$32,254,955.79	1.89

Oncor's 2017 Energy Efficiency 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											
Commercial SOP (Custom)	\$3,084,224	2,552.31	16,591,708.1				\$2,206,436.70	\$6,776,977.55	\$8,983,414.25	\$5,899,190.25	2.91
Deemed Cooling		288.69	2,319,621.3	15.0	\$775.99	\$0.38693	\$224,020.55	\$897,531.07	\$1,121,551.62		
Deemed Cooling		165.81	246,411.0	20.0	\$916.13	\$0.45681	\$151,903.52	\$112,563.01	\$264,466.52		
Deemed Cooling		299.79	2,241,111.9	25.0	\$1,020.77	\$0.50898	\$306,016.64	\$1,140,681.13	\$1,446,697.77		
Lighting Controls		117.41	1,283,682.1	10.0	\$588.26	\$0.29332	\$69,067.61	\$376,529.63	\$445,597.24		
Lighting		825.28	6,656,486.3	15.0	\$775.99	\$0.38693	\$640,409.03	\$2,575,594.24	\$3,216,003.27		
Metered Cooling		23.77	-14,894.8	20.0	\$916.13	\$0.45681	\$21,776.41	-\$6,804.09	\$14,972.32		
Motor		169.31	1,956,549.5	15.0	\$775.99	\$0.38693	\$131,382.87	\$757,047.70	\$888,430.56		
Motor/VFD		116.85	737,477.7	15.0	\$775.99	\$0.38693	\$90,674.43	\$285,352.25	\$376,026.68		
Solar PV		391.40	1,165,263.1	30.0	\$1,098.88	\$0.54793	\$430,101.63	\$638,482.61	\$1,068,584.24		
Thermal Storage		154.00	0.0	20.0	\$916.13	\$0.45681	\$141,084.02	\$0.00	\$141,084.02		
Commercial Load Management SOP	\$3,129,393	72,060.38	216,181.0	1.0	\$75.46	\$0.03763	\$5,437,676.27	\$8,134.89	\$5,445,811.17	\$2,316,418.17	1.74
Commercial SOP (Basic)	\$11,318,989	11,381.49	67,247,365.3				\$9,049,132.04	\$27,421,225.54	\$36,470,357.58	\$25,151,368.58	3.22
Deemed Cooling		1,517.48	6,588,770.1	15.0	\$775.99	\$0.38693	\$1,177,549.31	\$2,549,392.81	\$3,726,942.12		
Deemed Cooling		572.44	2,589,903.7	20.0	\$916.13	\$0.45681	\$524,429.46	\$1,183,093.91	\$1,707,523.37		
Deemed Cooling		859.92	12,763,833.2	25.0	\$1,020.77	\$0.50898	\$877,780.54	\$6,496,535.82	\$7,374,316.36		
Lighting		30.40	158,788.7	16.0	\$807.38	\$0.40258	\$24,544.35	\$63,925.15	\$88,469.51		
Lighting		7,033.42	38,442,969.0	15.0	\$775.99	\$0.38693	\$5,457,863.59	\$14,874,738.00	\$20,332,601.58		
Lighting		227.10	1,550,319.6	9.0	\$543.67	\$0.27109	\$123,467.46	\$420,276.14	\$543,743.60		
Lighting		279.07	1,378,151.9	15.5	\$791.91	\$0.39487	\$220,998.32	\$544,190.84	\$765,189.16		
Lighting Controls		524.22	2,539,347.5	10.0	\$588.26	\$0.29332	\$308,377.66	\$744,841.41	\$1,053,219.07		
Air Handler Control		42.19	692,357.0	15.0	\$775.99	\$0.38693	\$32,739.02	\$267,893.69	\$300,632.71		
Master Metered Apts-Attic Insulation		295.25	542,924.6	25.0	\$1,020.77	\$0.50898	\$301,382.34	\$276,337.76	\$577,720.11		
Solar PV SOP (Commercial)	\$2,873,284	1,488.01	4,917,962.5	30.0	\$1,098.88	\$0.54793	\$1,635,144.43	\$2,694,699.19	\$4,329,843.62	\$1,456,559.62	1.51
Small Business Direct Install MTP	\$2,190,616	1,190.15	7,129,854.4				\$866,314.78	\$2,605,133.55	\$3,471,448.34	\$1,280,832.34	1.58
Lighting Controls		0.01	77.1	10.0	\$588.26	\$0.29332	\$5.88	\$22.61	\$28.50		
Lighting		261.05	1,408,644.4	9.0	\$543.67	\$0.27109	\$141,925.05	\$381,869.41	\$523,794.46		
Lighting		714.31	4,516,652.5	15.0	\$775.99	\$0.38693	\$554,297.42	\$1,747,628.35	\$2,301,925.77		
Lighting		214.78	1,204,480.4	15.5	\$791.91	\$0.39487	\$170,086.43	\$475,613.18	\$645,699.61		
Healthcare MTP	\$558,697	138.04	1,202,059.90				\$10,416.50	\$45,233.51	\$55,650.01	-\$503,046.99	0.10
Retro-Commission		138.04	1,202,059.9	1.0	\$75.46	\$0.03763	\$10,416.50	\$45,233.51	\$55,650.01		
Commercial Total	\$23,155,203	88,810.38	97,305,131.2				\$19,205,121	\$39,551,404	\$58,756,525	\$35,601,321.97	2.54
R&D	\$0										
EM&V	\$0										
Grand Total	\$59,463,237	155,229.68	170,124,156.5				\$56,417,904.78	\$ 70,901,609.97	\$127,319,514.75	\$67,856,277.75	2.14

* Program costs include incentives, administration expenses, R&D, EM&V expenses and performance bonus (less municipal rate case expenses) as shown in column (j) of WPMRS/6

Avoided Costs are calculated using the present value of Commission-approved initial avoided capacity cost of \$80/kW and initial avoided energy cost of \$0.03989/kWh as stated in Rule § 25 181(d)(2) and (d)(3), and based on measure life, 2% escalation rate and 8.14% discount rate as noted in § Rule 25 181(h)(5)

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.

AFFIDAVIT OF ALICIA RIGLER

STATE OF TEXAS §
 §
COUNTY OF TRAVIS §

BEFORE ME, the undersigned authority, personally appeared Alicia Rigler known to me to be the person whose name is subscribed below who, upon oath, deposed and stated as follows:

1. My name is Alicia Rigler. I am over 18 years of age, of sound mind and fully competent to make this affidavit. Each statement of fact herein is true and of my own personal knowledge.
2. My business address is 600 Congress Avenue, Suite 2000, Austin, Texas 78701.
3. I am Manager – Project Development for Hunt Power, L.P. Previously, I was employed by Sharyland Utilities, L.P. (Sharyland) as Counsel. In that capacity, I either managed the preparation of or assisted in preparing Sharyland’s Energy Efficiency Cost Recovery Factor (EECRF) applications that were filed each year from 2012 through 2017. In 2017, I assisted in preparing Sharyland’s EECRF application (Application) filed in Docket No. 47248, and also advised on the processing of Sharyland’s Application.
4. In 2017, Sharyland retained Eversheds Sutherland (US) LLP (formerly known as Sutherland Asbill & Brennan LLP) (Eversheds Sutherland) and GDS Associates, Inc. (GDS) to assist in preparation of Sharyland’s application to the Public Utility Commission of Texas (Commission) to establish an EECRF for 2018. Eversheds Sutherland is Sharyland’s outside legal counsel and GDS is Sharyland’s outside rate consultant. Eversheds Sutherland also was retained to represent Sharyland in the associated EECRF proceeding before the Commission (Docket No. 47248), and GDS assisted in the proceeding, including with discovery matters, as necessary.
5. I am familiar with the Commission’s past decisions regarding the types of expenses that are eligible for rate case expense reimbursement. I have also read and considered 16 Texas Administrative Code (TAC) § 25.245, related to the Recovery of Expenses for Ratemaking Proceedings which was adopted by the Commission on July 10, 2014.

6. I was a practicing attorney for 14 years. I was employed by Sharyland from 2012 to 2017. Prior to joining Sharyland, I practiced law with the law firms of Eversheds Sutherland, Mayer Brown LLP, and Crowell & Moring, LLP.
7. 16 TAC § 25.245 establishes factors that a utility must address and criteria the presiding officer is to use when considering utilities' and municipalities' requests for recovery of or reimbursement for rate case expenses.
8. I have based my opinion on the reasonableness and necessity of the rate case expenses incurred in Docket No. 47248 upon consideration of the factors contained in 16 TAC § 25.245, including, (1) the nature, extent, and difficulty of the work done by the attorney or other professional in the rate case; (2) the time and labor required and expended by the attorney or other professional; (3) the fees or other consideration paid to the attorney or other professional for the services rendered; (4) the expenses incurred for lodging, meals and beverages, transportation, or other services or materials; (5) the nature and scope of the rate case, including (a) the size of the utility and number and type of consumers served; (b) the amount of money or value of property or interest at stake; (c) the novelty or complexity of the issues addressed; (d) the amount and complexity of discovery; and (e) the occurrence and length of a hearing; and (6) the specific issue or issues in the rate case and the amount of rate case expenses reasonably associated with each issue. Additionally, to the extent they were not already included as a factor in 16 TAC § 25.245, I also considered the factors from Texas Disciplinary Rule of Professional Conduct (TDRCP) 1.04(b).
9. I have personal knowledge of the facts stated in this Affidavit, which are true and correct. In my judgment and based upon my professional experience, the opinions stated and conclusions reached in this Affidavit are true, valid, and accurate.
10. Sharyland incurred rate case expenses associated with legal services from Eversheds Sutherland in the amount of \$17,754.21 associated with Docket No. 47248. Copies of the invoices received from Eversheds Sutherland are attached to this affidavit as Exhibit A. Two attorneys employed by Eversheds Sutherland performed and billed for legal services in Docket No. 47248. The hourly rates for the two lawyers who performed legal services were as follows: Mr. Jeffrey B. Stuart's hourly rate was \$430 and Mr. John Zerwas' hourly rate was \$390. Additionally, a paralegal employed by Eversheds Sutherland, Ms.

Sarah K. Merrick, also provided services to Sharyland in Docket No. 47248 at an hourly rate of \$155. I have personal knowledge of each of these individuals' expertise and experience based upon the work that Eversheds Sutherland has performed for Sharyland on past utility regulatory matters in which they were also engaged. The hourly rates charged by these individuals are commensurate with their experience, types of cases upon which they have worked, and are within the range of reasonable hourly rates for utility practitioners with comparable experience representing electric utilities before the Commission. In my opinion, the hourly rate for each of these individuals is reasonable. Based upon the scope of work assigned to each of these individuals, their employment was necessary to Sharyland's preparation, prosecution, and defense of its 2017 EECRF case.

11. As a relatively small utility, Sharyland has a small regulatory department and in 2017 employed only one in-house attorney for regulatory matters. Therefore, Sharyland relies upon Eversheds Sutherland to provide additional support to the extent that additional legal assistance is necessary. The work performed by Eversheds Sutherland related to assisting with the preparation of the Application for filing, including the review of testimony and exhibits provided as part of the Application. Subsequent to the filing of the Application, Eversheds Sutherland provided services for purposes of responding to discovery, settlement negotiations, and other various tasks. Eversheds Sutherland did not incur any expenses associated with lodging, meals and beverages, or transportation.
12. TDRCP 1.04(b) also provides a few additional factors that are not codified in 16 TAC § 25.245. In particular, Part (6) of that rule also contemplates the consideration of the nature and length of the professional relationship with the client. Eversheds Sutherland has represented Sharyland since its formation and has represented Sharyland in rate cases, EECRF proceedings, and various other proceedings at the Commission over the past approximately 19 years. Eversheds Sutherland's familiarity with Sharyland and long-term relationship enable Eversheds Sutherland to efficiently represent Sharyland. Additionally, Part (7) of TDRCP 1.04(b) addresses the experience, reputation, and ability of the lawyer or lawyers performing the services. The lawyers at Eversheds Sutherland have extensive experience representing utilities before the Commission and other regulatory bodies and enjoy an excellent reputation in the utility industry. I am

personally familiar with the work and reputation of the Eversheds Sutherland attorneys that performed work in connection with the Application based on the long-standing relationship that Sharyland has with Eversheds Sutherland.

13. Sharyland incurred rate case expenses associated with outside rate consultant expenses from GDS of \$26,576.06. Copies of the invoices received from GDS are attached to this affidavit as Exhibit B. The hourly rates charged for each individual from GDS were as follows: Mr. James E. Striedel's hourly rate was \$255, and Mr. John W. Hutts' hourly rate was \$240. I have personal knowledge of each of these individuals' expertise and experience based upon the work that GDS has performed for Sharyland on past utility regulatory matters in which they were also engaged. The hourly rates charged by these individuals are commensurate with their experience, types of cases upon which they have worked, and are within the range of reasonable hourly rates for rate consultants with comparable experience. In my opinion, the hourly rate for each of these individuals is reasonable. Based upon the scope of work assigned to each of these individuals, their employment was necessary to Sharyland's preparation, prosecution, and defense of its 2017 EECRF case.
14. Sharyland is a relatively small electric utility that does not have an in-house rate department, and therefore must rely on outside rate consultants. Any EECRF application requires the development of rates, the preparation of the application, including testimony and exhibits, the processing of the application, responding to discovery, and for purposes of Sharyland's Application, settlement negotiations and the preparation of a settlement agreement. The skills necessary to perform these tasks are of a specialized nature that require experience in developing load research data and rates for utilities. The vast majority of the expenses incurred by Sharyland for the work performed by GDS relate to the preparation of the Application. These tasks must be performed in order to comply with 16 TAC § 25.181. The time and labor expended by Sharyland's rate consultant was in direct response to the requirements necessary to prepare the Application.
15. I also believe that it was reasonable for Sharyland to rely on an outside rate consultant to assist with the preparation and processing of the Application. Sharyland is a relatively small electric utility and does not maintain an internal rate department. An EECRF

application requires the development of EECRF rates, thus, it was necessary to hire an outside rate consultant for the services provided by GDS.

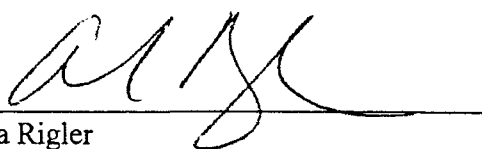
16. Unlike a general base rate proceeding, an EECRF application is of a limited nature. Therefore, Eversheds Sutherland and GDS did not divide their time entries into further categories. Given the limited scope of Docket No. 47248, I believe that this is reasonable.
17. I have reviewed each of the invoices for the work performed by the individuals at Eversheds Sutherland and GDS. For purposes of this evaluation, I also reviewed the procedural history of Docket No. 47248 and certain filings in the docket made available on the Commission's Interchange. As former Counsel for Sharyland, I am personally aware of the nature of the case in Docket No. 47248. The procedural milestones in Docket No. 47248 included:
 - Sharyland's Application, including prefiled Direct Testimony (June 1, 2017);
 - Sharyland's Motion to Admit Evidence and Remand Proceeding (August 23, 2017), which included a Unanimous Stipulation and Settlement Agreement between the parties to Docket No. 47248;
 - Proposed Order placed on Open Meeting agenda (September 7, 2017); and
 - Final Order (September 29, 2017).

Also, Sharyland was served with and responded to discovery requests during the course of Docket No. 47248. Sharyland also participated in several settlement discussions during the course of Docket No. 47248.

18. Based on my review of the Eversheds Sutherland and GDS invoices and the procedural history of Docket No. 47248, and considering the factors listed in 16 TAC § 25.245, I determined the rate case expenses relating to the performance of legal and professional services in Docket No. 47248 were reasonable and necessary. I concluded that the fees paid to, tasks performed by, and time spent on each task by each person employed by Eversheds Sutherland and GDS were neither extreme nor excessive, and there was no duplication of services or testimony. I also concluded that the time spent and services provided by each individual at Eversheds Sutherland and GDS were reasonable after considering the novelty and complexity of the issues addressed; the nature, extent, and difficulty of the work performed; and the amount and complexity of the discovery

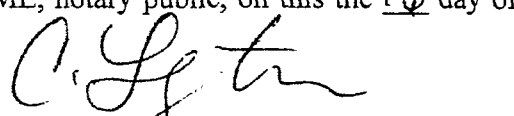
propounded on Sharyland and Sharyland's cooperation in responding to such discovery. I also based my conclusion on the determination that none of the proposals made or positions taken by Sharyland lacked a reasonable basis in law, policy, or fact, or requested an extension, modification, or reversal of Commission precedent.

- 19. In summary, for reasons stated in this Affidavit, I have concluded that the rate case expenses incurred in Docket No. 47248 are reasonable and necessary upon consideration of: (1) the nature, extent, and difficulty of the work done by the attorney or other professional in the rate case; (2) the time and labor required and expended by the attorney or other professional; (3) the fees or other consideration paid to the attorney or other professional for the services rendered; (4) the expenses incurred for lodging, meals and beverages, transportation, or other services or materials; (5) the nature and scope of the rate case, including (a) the size of the utility and number and type of consumers served; (b) the amount of money or value of property or interest at stake; (c) the novelty or complexity of the issues addressed; (d) the amount and complexity of discovery; and (e) the occurrence and length of a hearing; and (6) the specific issue or issues in the rate case and the amount of rate case expenses reasonably associated with each issue. The scope of my analysis also included a review of the invoices and receipts for legal, professional, travel, and miscellaneous expenses. The total amount of reasonable and necessary rate case expenses incurred in Docket No. 47248 that should be recovered as a result of Sharyland's Application is \$44,330.27.



 Alicia Rigler

SUBSCRIBED AND SWORN TO BEFORE ME, notary public, on this the 16th day of May 2018.



 Notary Public, State of Texas

My Commission Expires: 06/27/2018

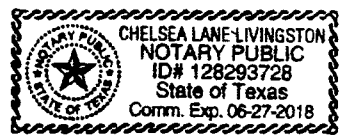


Exhibit A

EVERSHEDS SUTHERLAND

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T: +1 202 383 0100
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Sharyland Utilities, L.P.
c/o ADP Accounts Payable
Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 842134

File No. 16237-0048
June 20, 2017

Matter Name: Energy Efficiency

For legal services rendered through May 31, 2017

TIME AND FEE SUMMARY

Zerwas, JM	4.40 hours at \$390.00 =	1716.00
Merrick, SK	7.20 hours at \$155.00 =	1116.00

Total Current Fees \$2,832.00

Total Current Invoice \$2,832.00
=====

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P. Jun 20, 2017 PAGE 2
FILE NUMBER: 16237-0048
INVOICE NO.: 842134

Detail Time Entries:

05/26/17 Discussion with C. Flowers regarding testimony exhibits for EECRF update application Merrick, SK .30 hours at 155.00 per hour.	46.50
05/30/17 Attention to 2017 EECRF application Zerwas, JM .50 hours at 390.00 per hour.	195.00
05/30/17 Prepare draft application, testimony and exhibits for EECRF update application; correspondence with C. Flowers regarding same Merrick, SK 2.90 hours at 155.00 per hour.	449.50
05/31/17 Review and revise draft 2017 EECRF application, direct testimony, and exhibits Zerwas, JM 3.90 hours at 390.00 per hour.	1521.00
05/31/17 Attention to testimony exhibits; proofread and edit application and testimony; preparation for mail notice Merrick, SK 4.00 hours at 155.00 per hour.	620.00

Total Current Fees \$2,832.00

Total Current Invoice \$2,832.00

IRS Employer ID #: 58-0619407

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 842134

Jun 20, 2017 PAGE 3

Matter Name: Energy Efficiency

For legal services rendered
through May 31, 2017

Total Current Fees \$2,832.00

Total Current Invoice \$2,832.00
=====

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c/o ADP Accounts Payable
Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 848161

File No. 16237-0048
August 15, 2017

Matter Name: Energy Efficiency

For legal services rendered through June 30, 2017

TIME AND FEE SUMMARY

Stuart, JB	2.10 hours at \$430.00 =	903.00
Zerwas, JM	13.00 hours at \$390.00 =	5070.00
Merrick, SK	15.00 hours at \$155.00 =	2325.00

Total Current Fees \$8,298.00

Total Current Charges \$100.00

Total Current Invoice \$8,398.00
=====

IRS Employer ID #: 58-0619407

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Sharyland Utilities, L.P. Aug 15, 2017 PAGE 2
FILE NUMBER: 16237-0048
INVOICE NO.: 848161

Detail Time Entries:

06/01/17	Review and revise EECRF application; discuss same with J. Zerwas Stuart, JB 2.10 hours at 430.00 per hour.	903.00
06/01/17	Review and revise 2017 EECRF application, direct testimony, and attachments; correspondence regarding same; prepare same for filing Zerwas, JM 5.00 hours at 390.00 per hour.	1950.00
06/01/17	Attention to testimony, exhibits and application for EECRF update application; finalize and file same Merrick, SK 5.20 hours at 155.00 per hour.	806.00
06/02/17	Attention to notice of 2017 EECRF application Zerwas, JM .30 hours at 390.00 per hour.	117.00
06/02/17	Prepare and send out notice of EECRF update application Merrick, SK 2.00 hours at 155.00 per hour.	310.00
06/05/17	Attention to Order of Referral and new deadlines in Dkt. 47248 Merrick, SK .20 hours at 155.00 per hour.	31.00
06/06/17	Correspondence with J. Striedel regarding direct testimony; prepare draft proof of notice and draft list of issues Merrick, SK 1.00 hours at 155.00 per hour.	155.00
06/07/17	Attention to recent PUCT orders, draft proposed procedural schedule, and draft proposed list of issues Zerwas, JM 1.10 hours at 390.00 per hour.	429.00

IRS Employer ID #: 58-0619407

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Sharyland Utilities, L.P. FILE NUMBER: 16237-0048 INVOICE NO.: 848161	Aug 15, 2017	PAGE 3
06/07/17 Attention to SOAH Order No. 1 and new deadlines; prepare draft proposed procedural schedule Merrick, SK .70 hours at 155.00 per hour.		108.50
06/09/17 Update draft proposed procedural schedule Merrick, SK .30 hours at 155.00 per hour.		46.50
06/12/17 Attention to draft proposed list of issues to be addressed, draft proposed procedural schedule, and proof of notice; attention to correspondence regarding EECRF application Zerwas, JM 3.10 hours at 390.00 per hour.		1209.00
06/13/17 Attention to procedural schedule, list of issues, proof of notice, Staff's 1st RFI, and correspondence regarding same; phone calls with PUC Staff and OPUC regarding application Zerwas, JM .60 hours at 390.00 per hour.		234.00
06/13/17 Attention to discovery request; prepare draft response to Staff's 1st RFI; prepare proof of notice and list of issues for filing Merrick, SK 1.20 hours at 155.00 per hour.		186.00
06/14/17 Finalize, file and service Proof of Notice and List of Issues in Dkt. 47248 Merrick, SK .80 hours at 155.00 per hour.		124.00
06/15/17 Attention to proposed procedural schedule and correspondence regarding same; phone calls with PUC Staff counsel regarding same Zerwas, JM 1.10 hours at 390.00 per hour.		429.00
06/15/17 Finalize, file and service Proposed Procedural Schedule in Dkt. 47248 Merrick, SK .70 hours at 155.00 per hour.		108.50
06/19/17 Attention to revised proposed procedural schedule; phone call with PUC Staff to discuss same Zerwas, JM .50 hours at 390.00 per hour.		195.00

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Sharyland Utilities, L.P. Aug 15, 2017 PAGE 4
FILE NUMBER: 16237-0048
INVOICE NO.: 848161

06/19/17	Prepare revised proposed procedural schedule; finalize, file and service same; attention to Staff's protective order certifications Merrick, SK 1.00 hours at 155.00 per hour.	155.00
06/20/17	Attention to SOAH Order No. 2 and new deadlines; attention to new filings Merrick, SK .50 hours at 155.00 per hour.	77.50
06/21/17	Draft responses to Staff's 1st RFI; correspondence related to same Zerwas, JM .30 hours at 390.00 per hour.	117.00
06/22/17	Attention to new filings; finalize, file and service response to Staff's 1st RFI Merrick, SK 1.20 hours at 155.00 per hour.	186.00
06/29/17	Attend open meeting and review EECRF application, draft preliminary order, and materials from 2016 EECRF proceeding in preparation for open meeting Zerwas, JM 1.00 hours at 390.00 per hour.	390.00
06/30/17	Attention to Preliminary Order Merrick, SK .20 hours at 155.00 per hour.	31.00

Total Current Fees \$8,298.00

Related Charges:

Firm Courier 100.00

Total Current Charges \$100.00

Total Current Invoice \$8,398.00

IRS Employer ID #: 58-0619407

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 848161

Aug 15, 2017 PAGE 5

Matter Name: Energy Efficiency

For legal services rendered through June 30, 2017

Total Current Fees	\$8,298.00
Total Current Charges	\$100.00
Total Current Invoice	<u>\$8,398.00</u> =====

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c/o ADP Accounts Payable
Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 850015

File No. 16237-0048
August 31, 2017

Matter Name: Energy Efficiency

For legal services rendered through July 31, 2017

TIME AND FEE SUMMARY

Zerwas, JM	1.60 hours at \$390.00 =	624.00
Merrick, SK	4.20 hours at \$155.00 =	651.00
	Total Current Fees	\$1,275.00
	Total Current Charges	\$136.11
	Total Current Invoice	\$1,411.11

IRS Employer ID #: 58-0619407

Wire transfer instructions:
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Account #: 1000002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 850015

Aug 31, 2017 PAGE 3

Related Charges:

Copying	29.00
Firm Courier	37.00
Postage	70.11

Total Current Charges \$136.11

Total Current Invoice \$1,411.11

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 100002870631
Swift: SNTRUS3A

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eversheds-sutherland.com

Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 850015

Aug 31, 2017 PAGE 4

Matter Name: Energy Efficiency

For legal services rendered through July 31, 2017

Total Current Fees	\$1,275.00
Total Current Charges	<u>\$136.11</u>
Total Current Invoice	<u>=====</u> \$1,411.11 <u>=====</u>

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c/o ADP Accounts Payable
Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 853017

File No. 16237-0048
September 27, 2017

Matter Name: Energy Efficiency

For legal services rendered through August 31, 2017

TIME AND FEE SUMMARY

Zerwas, JM	8.10 hours at \$390.00 =	3159.00
Merrick, SK	1.60 hours at \$155.00 =	248.00

Total Current Fees \$3,407.00

Total Current Charges \$32.00

Total Current Invoice \$3,439.00
=====

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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EVERSHEDS SUTHERLAND

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eversheds-sutherland.com

Sharyland Utilities, L.P. Sep 27, 2017 PAGE 2
FILE NUMBER: 16237-0048
INVOICE NO.: 853017

Detail Time Entries:

08/07/17	Phone call with PUC Staff counsel regarding EECRF application and potential settlement Zerwas, JM .50 hours at 390.00 per hour.	195.00
08/09/17	Attention to settlement and draft motion to abate; phone call with PUC Staff to discuss settlement Zerwas, JM .50 hours at 390.00 per hour.	195.00
08/09/17	Finalize, file and service motion to abate Merrick, SK .40 hours at 155.00 per hour.	62.00
08/10/17	Attention to SOAH Order No. 3 Merrick, SK .20 hours at 155.00 per hour.	31.00
08/15/17	Phone call with PUC Staff counsel regarding settlement Zerwas, JM .30 hours at 390.00 per hour.	117.00
08/16/17	Draft settlement documents for Docket No. 47248 Zerwas, JM 2.40 hours at 390.00 per hour.	936.00
08/17/17	Review draft settlement documents and circulate to SU for review; discuss same with J. Stuart and PUC Staff Zerwas, JM .30 hours at 390.00 per hour.	117.00
08/21/17	Revise draft settlement documents and attention to correspondence regarding same; phone call with PUC Staff counsel regarding settlement documents Zerwas, JM .70 hours at 390.00 per hour.	273.00
08/22/17	Discussions with A. Rigler and B. Headrick regarding settlement documents; conduct research regarding over-recoveries and refunds of other TDUs; review the Commissioners' discussion on EECRF	

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 100002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P. Sep 27, 2017 PAGE 3
FILE NUMBER: 16237-0048
INVOICE NO.: 853017

	over-recoveries at the August 17 open meeting; phone calls with PUC Staff counsel regarding settlement documents and timing of filing settlement documents; review PUC Staff's revisions to settlement documents; revise settlement documents Zerwas, JM 1.90 hours at 390.00 per hour.	741.00
08/23/17	Discuss PUC Staff's edits to settlement documents with A. Rigler and B. Headrick; final review of settlement documents and prepare same for filing; review draft PUC Staff affidavits in support of settlement and discuss same with PUC Staff counsel Zerwas, JM 1.50 hours at 390.00 per hour.	585.00
08/23/17	Finalize, file and service settlement documents Merrick, SK .80 hours at 155.00 per hour.	124.00
08/29/17	Correspondence with C. Flowers regarding final testimony and schedules in Dkt. 47248 Merrick, SK .20 hours at 155.00 per hour.	31.00
	Total Current Fees	\$3,407.00

Related Charges:

Firm Courier	32.00
Total Current Charges	\$32.00
Total Current Invoice	\$3,439.00

IRS Employer ID #: 58-0619407

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Routing #: 061000104
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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 853017

Sep 27, 2017 PAGE 4

Matter Name: Energy Efficiency

For legal services rendered
through August 31, 2017

Total Current Fees \$3,407.00

Total Current Charges \$32.00

Total Current Invoice \$3,439.00

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Sharyland Utilities, L.P.
c/o ADP Accounts Payable
Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 858370

File No. 16237-0048
November 14, 2017

Matter Name: Energy Efficiency

For legal services rendered through September 30, 2017

TIME AND FEE SUMMARY

Zerwas, JM	2.70 hours at \$390.00 =	1053.00
Merrick, SK	1.10 hours at \$155.00 =	170.50

Total Current Fees \$1,223.50

Total Current Charges \$19.70

Total Current Invoice \$1,243.20
=====

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 858370

Nov 14, 2017 PAGE 3

Related Charges:

Copying	19.70
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Total Current Charges	\$19.70
-----------------------	---------

Total Current Invoice	\$1,243.20
-----------------------	------------

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 858370

Nov 14, 2017 PAGE 4

Matter Name: Energy Efficiency

For legal services rendered
through September 30, 2017

Total Current Fees	\$1,223.50
Total Current Charges	\$19.70
Total Current Invoice	\$1,243.20

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IRS Employer ID #: 58-0619407

Wire transfer instructions:
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Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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Dallas - Regulatory Dallas
P.O. Box 3677
Coppell, TX 75019-3677

INVOICE NO. 859507

File No. 16237-0048
November 17, 2017

Matter Name: Energy Efficiency

For legal services rendered through October 31, 2017

TIME AND FEE SUMMARY

Zerwas, JM	0.30 hours at \$390.00 =	117.00
Merrick, SK	2.00 hours at \$155.00 =	310.00

Total Current Fees \$427.00

Total Current Charges \$3.90

Total Current Invoice \$430.90
=====

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 1000002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P. Nov 17, 2017 PAGE 2
FILE NUMBER: 16237-0048
INVOICE NO.: 859507

Detail Time Entries:

10/05/17	Attention to draft compliance tariff filing Zerwas, JM .30 hours at 390.00 per hour.	117.00
10/05/17	Attention to new filings; prepare clean copy tariffs to be stamped "Approved" Merrick, SK .60 hours at 155.00 per hour.	93.00
10/09/17	Finalize and file clean copy tariffs to be stamped "Approved" in Dkt. 47248 Merrick, SK .70 hours at 155.00 per hour.	108.50
10/23/17	Correspondence with PUC regarding stamped "Approved" tariff sheets Merrick, SK .20 hours at 155.00 per hour.	31.00
10/26/17	Update master tariff manuals with rates approved in Dkt. 47248; correspondence with C. Flowers regarding same Merrick, SK .50 hours at 155.00 per hour.	77.50
Total Current Fees		\$427.00

Related Charges:

Copying	3.90
Total Current Charges	\$3.90
Total Current Invoice	\$430.90

IRS Employer ID #: 58-0619407

Wire transfer instructions:
SunTrust Bank
Routing #: 061000104
Account #: 100002870631
Swift: SNTRUS3A

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Sharyland Utilities, L.P.
FILE NUMBER: 16237-0048
INVOICE NO.: 859507

Nov 17, 2017 PAGE 3

Matter Name: Energy Efficiency

For legal services rendered
through October 31, 2017

Total Current Fees	\$427.00
Total Current Charges	\$3.90
Total Current Invoice	\$430.90

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IRS Employer ID #: 58-0619407

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Exhibit B



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Marietta, Georgia 30067

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Fax 866.811.3791
Fed. EIN 58-1658843

SHARYLAND UTILITIES, LP
c/o ADP Accounts Payable
Sharyland
P.O. Box 3677
Connell, TX 75019-3677
ALICIA RIGLER

INVOICE NO: 0147899
DATE: Apr 10, 2017
CLIENT CODE: 0044833
PROJECT NO: 0048

	Hours	Amount
ASSIST WITH THE PREPARATION OF THE 2017 PUC ENERGY EFFICIENCY		
1/30/17 James E. Striedel	0.50	127.50
Respond to 2017 EECRF Program Allocation Question (.5 M)		
2/22/17 James E. Striedel	1.25	318.75
Kick-off Call for 2017 Sharyland EEPR & EECRF and Follow-up (1.25 W)		
3/17/17 James E. Striedel	0.50	127.50
Preparation of 2016/17 EECRF Over/Under Recovery (.5 F)		
3/20/17 James E. Striedel	3.50	892.50
Preparation of 2018 EECRF (3.5 M)		
3/22/17 James E. Striedel	5.00	1,275.00
Preparation of Sharyland 2016/17 EECRF Over/Under Recovery (5 W)		
3/23/17 James E. Striedel	0.50	127.50
Preparation of Sharyland EECRF/EEPR (.5 Th)		
3/24/17 James E. Striedel	3.75	956.25
Preparation of the Sharyland 2016 EECRF Over/Under Recovery (3.75 F)		
3/27/17 James E. Striedel	3.25	828.75
Preparation of the Sharyland PY 2016 EECRF Over/Under Recover for the EEPR (3.25 M)		
3/28/17 James E. Striedel	4.25	1,083.75
Sharyland EECRF Calculations for EEPR (4.25 Tu)		
3/29/17 James E. Striedel	1.75	446.25
Preparation of Sharyland EEPR - Estimated 2018 EECRF Rate Design (1.75 W)		
3/30/17 James E. Striedel	0.25	63.75
Preparation of Sharyland EEPR (.25 Th)		
3/30/17 John W. Hutts	8.00	1,920.00
Assisted in preparation of 2017 EEPR		
	TOTAL FEES:	8,167.50
Long-Distance Telephone	SHORETEL PHONE BILL-MARCH	2.10
	TOTAL EXPENSES:	2.10





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c/o ADP Accounts Payable
Sharyland
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Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO: 0147899
DATE: Apr 10, 2017
CLIENT CODE: 0044833
PROJECT NO: 0048

Hours Amount

TOTAL AMOUNT DUE:

8,169.60

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
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Page 1 of 1

MENU FAVORITES JOURNAL EXPENSE OUTLOOK SHAREPOINT PROFILE IT SUPPORT

telephone

← March 2017 →

Details for 44833-048

Call Time (Eastern)	Employee	Dialed Number	Minutes	Cost
03/21/2017 05:50 PM	2154 - Striedel, James	+14328941851	1	\$0.06
03/21/2017 05:52 PM	2154 - Striedel, James	+12148556103	3	\$0.18
03/29/2017 01:06 PM	2154 - Striedel, James	+14328941851	1	\$0.06
03/29/2017 01:17 PM	2154 - Striedel, James	+14328941851	2	\$0.12
03/30/2017 02:07 PM	1112 - Hutts, John	+12148556103	20	\$1.20
03/30/2017 02:51 PM	1112 - Hutts, John	+12148556103	1	\$0.06
03/30/2017 04:25 PM	1112 - Hutts, John	+12148556103	7	\$0.42
Total			35	\$2.10

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Sharyland
P.O. Box 3677
Connell, TX 75019-3677
ALICIA RIGLER

INVOICE NO: 0149550
DATE: May 11, 2017
CLIENT CODE: 0044833
PROJECT NO: 0048

		Hours	Amount
ASSIST WITH THE PREPARATION OF THE 2017 PUC ENERGY EFFICIENCY			
4/7/17	James E. Striedel Preparation of Sharyland 2018 EECRF Rate Design (.5 F)	0.50	127.50
4/13/17	John W. Hutts Preparation of 2017-2019 projections for EEPR Discussions with SU staff	2.00	480.00
4/17/17	John W. Hutts Analysis of opt-out data provided by SU.	1.00	240.00
4/18/17	John W. Hutts Analysis of opt-out data provided by SU. Discussions with Alicia regarding customer migrations study.	2.00	480.00
4/27/17	James E. Striedel Preparation of the 2018 Sharyland EECRF Calculations (1 Th)	1.00	255.00
4/27/17	John W. Hutts Analysis of EECRF consumption and preparation of EECRF consumption forecast.	4.00	960.00
4/28/17	James E. Striedel Prepare Sharyland 2018 EECRF Rate Design (3.5 F)	3.50	892.50
TOTAL FEES:			3,435.00

TOTAL AMOUNT DUE: **3,435.00**

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
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Marietta, Georgia 30067

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c/o ADP Accounts Payable
Sharyland
P.O. Box 3677
Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO : 0150197
DATE : Jun 02, 2017
CLIENT CODE : 0044833
PROJECT NO : 0048

		Hours	Amount
ASSIST WITH THE PREPARATION OF THE 2017 PUC ENERGY EFFICIENCY			
5/1/17	James E. Striedel Preparation of 2018 Sharyland EECRF Rate Design (.5 M)	0.50	127.50
5/2/17	James E. Striedel Preparation of Sharyland EECRF Rate Design (3.5 Tu)	3.50	892.50
5/3/17	John W. Hutts Teleconference with SU staff	1.00	240.00
5/4/17	James E. Striedel Preparation of Sharyland 2018 EECRF Rate Design (.5 Th)	0.50	127.50
5/5/17	James E. Striedel Reviewing Updated Sharyland KWh Data (.75 F) Prepare Sharyland 2018 EECRF Rate Design (2 F)	2.75	701.25
5/5/17	John W. Hutts Revised Table 4 and monthly load forecast based on updated data from SU	3.00	720.00
5/8/17	James E. Striedel Reviewing Updated Load Data for 2018 Sharyland EEPR (.25 M)	0.25	63.75
5/8/17	John W. Hutts Teleconference with SU staff. Analysis of exempt/non-exempt consumption.	1.00	240.00
5/9/17	John W. Hutts Teleconference with SU staff. Analysis of exempt/non-exempt consumption. Revised inputs for EEPR filing.	1.00	240.00
5/10/17	James E. Striedel Preparation of Sharyland 2018 EECRF Rate Design (.25 W)	0.25	63.75
5/10/17	John W. Hutts Teleconference with SU staff. Analysis of exempt/non-exempt consumption. Revised inputs for EEPR filing.	1.00	240.00
5/11/17	John W. Hutts Teleconference with SU staff. Analysis of exempt/non-exempt consumption. Revised inputs for EEPR filing.	4.00	960.00
5/12/17	James E. Striedel Preparation of Sharyland 2018 EERCRC Rate Design (.25 F)	0.25	63.75
5/12/17	John W. Hutts	1.00	240.00





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Connell, TX 75019-3677
ALICIA RIGLER

INVOICE NO : 0150197
DATE : Jun 02, 2017
CLIENT CODE : 0044833
PROJECT NO : 0048

		Hours	Amount
5/15/17	Updated energy forecast for EECRF determination. James E. Striedel	2.00	510.00
5/16/17	Preparation of Sharyland 2018 EECRF Rate Design (2 M) James E. Striedel	3.00	765.00
5/17/17	2018 Sharyland EECRF Rate Design (3 Tu) John W. Hutts	1.00	240.00
5/18/17	Discussions with Bridget re EEPR Table 4 James E. Striedel	4.50	1,147.50
5/19/17	Preparation of Sharyland 2018 EECRF Rate Design (4.5 Th) James E. Striedel	6.75	1,721.25
5/19/17	Sharyland 2018 EECRF Rate Design (6.75 F) John W. Hutts	1.00	240.00
5/22/17	Edits to J. Striedel testimony; teleconference James E. Striedel	1.25	318.75
5/23/17	Sharyland EECRF Rate Design (1.25 M) James E. Striedel	1.25	318.75
5/23/17	Preparation of Sharyland 2018 EECRF Rate Design (1.25 Tu) John W. Hutts	1.00	240.00
5/24/17	Additional analysis regarding demand goal calculation James E. Striedel	5.00	1,275.00
5/24/17	Preparation of 2018 EECRF Rate Design (5 W) John W. Hutts	2.00	480.00
5/25/17	Updates to forecast file and data used for EECRF rate computation James E. Striedel	4.25	1,083.75
5/26/17	Preparation of Sharyland 2018 EECRF Rate Design and Testimony (4.25 Th) James E. Striedel	1.75	446.25
5/26/17	Preparation of Sharyland 2018 EECRF Rate Design (1.75 F) John W. Hutts	1.00	240.00
	Review of EEPR calculations; communications with client		
TOTAL FEES:			13,946.25
Long-Distance Telephone	JSS VISA CONFERENCE CALL		4.67





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Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO : 0150197
DATE : Jun 02, 2017
CLIENT CODE : 0044833
PROJECT NO : 0048

	Hours	Amount
Long-Distance Telephone SHORETEL PHONE BILL-MAY		0.54
TOTAL EXPENSES:		5.21

TOTAL AMOUNT DUE: **13,951.46**

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
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Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO : 0151125
DATE : Jul 10, 2017
CLIENT CODE : 0044833
PROJECT NO : 0048

		Hours	Amount
ASSIST WITH THE PREPARATION OF THE 2017 PUC ENERGY EFFICIENCY			
5/27/17	James E. Striedel Preparation of Sharyland 2018 EECRF Rate Design & Testimony (1.75 Sa)	1.75	446.25
5/30/17	James E. Striedel Sharyland 2018 EECRF Rate Design (1.5 Tu)	1.50	382.50
6/1/17	James E. Striedel Finalize Sharyland 2018 EECRF Testimony (.25 Th)	0.25	63.75
6/15/17	James E. Striedel Sharyland 2018 EECRF Hearing Scheduling (.25 Th)	0.25	63.75
TOTAL FEES:			956.25

TOTAL AMOUNT DUE:

956.25

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
PLEASE MAKE CHECKS PAYABLE TO GDS ASSOCIATES, INC.





1853 Parkway Place
Suite 600
Marietta, Georgia 30067

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Tel EM 58-1653843

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c/o ADP Accounts Payable
Sharyland
P.O. Box 3677
Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO : 0153350
DATE : Sep 25, 2017
CLIENT CODE : 0044833
PROJECT NO : 0048

ASSIST WITH THE PREPARATION OF
THE 2017 PUC ENERGY EFFICIENCY

		Hours	Amount
8/9/17	James E. Striedel	0.25	63.75
	Review the Settlement of the 2018 Sharyland EECRF Case (.25 W)		
TOTAL FEES:			<u>63.75</u>

TOTAL AMOUNT DUE: 63.75

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
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Marietta, Georgia 30067

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Sharyland
P.O. Box 3677
Coppell, TX 75019-3677
ALICIA RIGLER

INVOICE NO: 0153784
DATE: Oct 10, 2017
CLIENT CODE: 0044833
PROJECT NO: 0048

	Hours	Amount
ASSIST WITH THE PREPARATION OF THE 2017 PUC ENERGY EFFICIENCY		
8/30/17 James E. Striedel Finding 2015 Sharyland EECRF Testimony (1-W)	1.00	255.00
9/8/17 James E. Striedel Review of 2018 Sharyland EECRF Settlement Order (.5 F)	0.50	127.50
TOTAL FEES:		382.50

TOTAL AMOUNT DUE:

382.50

PAYMENT DUE WITHIN 30 DAYS OF RECEIPT
PLEASE MAKE CHECKS PAYABLE TO GDS ASSOCIATES, INC.



**INDEX TO THE DIRECT TESTIMONY
OF J. MICHAEL SHERBURNE, WITNESS FOR
ONCOR ELECTRIC DELIVERY COMPANY LLC**

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DIRECT TESTIMONY OF J. MICHAEL SHERBURNE

I. POSITION AND QUALIFICATIONS

1
2
3 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT
4 EMPLOYMENT POSITION.

5 A. My name is J. Michael Sherburne. My business address is 1616 Woodall
6 Rodgers Freeway, Dallas, Texas, 75202-1234. I am Senior Director -
7 Rates & Financial Analysis for Oncor Electric Delivery Company LLC
8 (“Oncor” or “Company”).

9 Q. PLEASE DISCUSS YOUR EDUCATIONAL BACKGROUND AND
10 PROFESSIONAL QUALIFICATIONS.

11 A. I graduated from Louisiana State University in December 1979 with a
12 Bachelor of Science degree in Electrical Engineering. In August 1989, I
13 received a Master of Business Administration degree from the University
14 of Dallas. I began employment with Dallas Power & Light Company
15 (“DP&L”) in June 1980 as an Engineer, Jr. in the Research and
16 Development Section of the Distribution Department where I was
17 responsible for testing and evaluating new equipment and technologies for
18 application on the distribution system and analyzing the root cause for
19 equipment failures on the distribution system. In June 1984, I was named
20 Section Head - Overhead and Underground Operations in the DP&L
21 Distribution Department. In that role, I was responsible for a group of
22 distribution operation technicians that located underground cable faults,
23 transformer overloads, and arranged for clearances (planned outages) in
24 the downtown Dallas network and surrounding areas that enabled the
25 Company and customers to perform necessary maintenance and/or add
26 additional load to the system. In April 1986, I was named Senior Engineer
27 in the DP&L Distribution Design Division of the Engineering Department
28 where, among other things, I worked to standardize the line extension
29 policy for the three electric operation divisions of Texas Utilities Electric
30 Company and began working on a remote meter reading system for a high

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1 rise apartment complex in Dallas. In December 1987, I was named
2 Manager, Facilities Management for DP&L and became responsible for
3 the construction, operation, and maintenance of DP&L office facilities. I
4 continued that responsibility until February 1991, when I was named to the
5 position of Rates and Cost Analysis Manager for Texas Utilities Electric
6 Company. In that role, I had responsibility for interpreting and
7 administering the Company's Tariff for Electric Service, determining the
8 appropriate rate class cost allocation methodology for the Company's rate
9 class cost of service, and reviewing and participating in rulemakings at the
10 Public Utility Commission of Texas ("Commission"). In May 1999, I was
11 named Electric Rates Manager - TXU Business Services and became the
12 Company's advocate in virtually all of the rulemakings associated with the
13 opening of the retail electricity market in the Electric Reliability Council of
14 Texas ("ERCOT"). I participated in countless workshops dealing with the
15 unbundling rules, especially the creation of the Pro Forma Tariff for Retail
16 Delivery Service (Substantive Rule 25.241). Subsequent to the opening of
17 the retail market in Texas, I continued to represent the Company in rate
18 and regulatory proceedings at the Commission. In February 2008, I was
19 named Director – Rates and Retail Regulation for Oncor, and in April,
20 2009, I was named to my current position of Senior Director – Rates &
21 Financial Analysis for Oncor.

22 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

23 A. Yes. Please see Exhibit JMS-1 for a list of the Commission proceedings
24 in which I have provided testimony.

25 **II. PURPOSE OF DIRECT TESTIMONY**

26 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

27 A. The purpose of my direct testimony is to: (1) provide background on
28 Oncor's recovery of energy efficiency program costs in calendar year
29 2017; (2) describe and support the methodology used to develop the
30 proposed energy efficiency cost recovery factor ("EECRF") charges to

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1 recover the proposed 2019 energy efficiency costs pursuant to 16 Tex.
2 Admin. Code (“TAC”) § 25.181 (“Rule 25.181”); (3) describe and support
3 the methodology used to allocate Oncor’s 2017 earned energy efficiency
4 performance bonus to the energy efficiency rate classes; (4) describe and
5 support the methodology used to allocate the EECRF proceeding
6 expenses incurred in 2017 to the energy efficiency rate classes; (5)
7 describe and support the process Oncor used to exempt industrial
8 distribution voltage customers from EECRF charges; (6) describe and
9 support the calculation of the line loss factor used in determining Oncor’s
10 energy efficiency goals; and (7) support Oncor’s proposed adjustments to
11 its Rider EECRF – Energy Efficiency Cost Recovery Factor. For more
12 information related to the Company’s proposed 2019 EECRF, please refer
13 to the direct testimony of Oncor witness Mr. Michael R. Stockard. In
14 addition, I will address how the transfer of assets between Oncor and
15 Sharyland (including regulatory assets/liabilities) affect the calculation of
16 Oncor’s 2019 EECRF factors. *See Joint Report and Application of*
17 *Sharyland Utilities, L.P., Sharyland Distribution & Transmission Services,*
18 *L.L.C., and Oncor Electric Delivery Company LLC for Transfer of*
19 *Facilities, Transfer of Rights Under and Amendment of Certificates of*
20 *Convenience and Necessity, and for Other Regulatory Approvals, Docket*
21 *No. 47469, Order at Findings of Fact 42(k) (October 13, 2017).*

22 **III. RECOVERY OF ENERGY EFFICIENCY PROGRAM COSTS**

23 Q. HOW WERE COSTS ASSOCIATED WITH ENERGY EFFICIENCY
24 PROGRAMS RECOVERED IN 2017?

25 A. Oncor recovered energy efficiency costs in 2017 through EECRF factors
26 approved by the Commission in Docket Nos. 46013 and 44784¹. Please
27 refer to my WP/JMS/1 for the energy efficiency revenues recovered in
28 2017 through these EECRF factors.

¹ Docket No. 44784 effective March 1, 2016 through February 28, 2017.
Docket No. 46013 effective March 1, 2017 through February 28, 2018.

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1 Sharyland recovered energy efficiency costs in 2017 through
2 EECRF factors approved by the Commission in Docket No. 46024. See
3 *Application of Sharyland Utilities, L.P. to Adjust Its Energy Efficiency Cost*
4 *Recovery Factor and For Related Relief*, Docket No. 46024, Order
5 (November 14, 2016). Please refer to my WP/JMS/1 for the energy
6 efficiency revenues recovered in 2017 through these EECRF factors.

7 Q WHY IS ONCOR REQUESTING AN EECRF FOR 2019?

8 A. Oncor is requesting an EECRF for 2019 in compliance with Rule
9 25.181(f)(8), which provides as follows: "Not later than June 1 of each
10 year, a utility in an area in which customer choice is offered shall apply to
11 adjust its EECRF effective March 1 of the following year."

12 **IV. CALCULATION OF THE AMOUNT TO BE RECOVERED BY ENERGY**
13 **EFFICIENCY RATE CLASSES THROUGH THE 2019 EECRF**

14 Q. HOW IS THE AMOUNT TO BE RECOVERED THROUGH ONCOR'S
15 PROPOSED 2019 EECRF DETERMINED?

16 A. The methodology used to determine the amount to be recovered through
17 the EECRF is specified in Rule 25.181(f) and is described in the direct
18 testimony of Oncor witness Mr. Michael R. Stockard. Oncor's proposed
19 2019 EECRF is designed to include the forecasted costs of the 2019
20 program year (including applicable evaluation, measurement, and
21 verification costs), the overall under-recovery of actual 2017 energy
22 efficiency costs for both Oncor and Sharyland, Oncor's earned energy
23 efficiency performance bonus for 2017 program year achievements, and
24 the EECRF proceeding expenses incurred in 2017 for both municipalities
25 served by Oncor and Sharyland. The total amount requested for recovery
26 through the 2019 EECRF is \$58,223,059 as shown on my Exhibit JMS-4.

27 Q. PLEASE DESCRIBE HOW THE 2019 ENERGY EFFICIENCY PROGRAM
28 COSTS, BY ENERGY EFFICIENCY RATE CLASS, WERE DERIVED.

29 A. Oncor witness Mr. Stockard assigned the energy efficiency program costs
30 for 2019 at the rate code level. Mr. Stockard then aggregated these

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1 program costs to the energy efficiency rate class level as shown in his
2 Exhibit MRS-4. I verified that the energy efficiency rate class aggregation
3 from rate code was properly conducted.

4 Q. WAS THERE AN OVERALL UNDER-RECOVERY OF 2017 ENERGY
5 EFFICIENCY PROGRAM COSTS BY ONCOR AND SHARYLAND?

6 A. Yes. The combined overall under-recovery of \$37,177 for Oncor and
7 Sharyland in the 2017 program year is shown on WP/JMS/2 page 3,
8 column (h).

9 Q. PLEASE DESCRIBE HOW THE (OVER)/UNDER-RECOVERY OF 2017
10 ENERGY EFFICIENCY PROGRAM COSTS, BY ENERGY EFFICIENCY
11 RATE CLASS, WAS DERIVED.

12 A. Pursuant to FoF 46 in the Final Order in Docket No. 47469 dated October
13 13, 2017, Oncor will describe and show the (over)/under recoveries
14 separately for Oncor and Sharyland, and then combine them for
15 determination of a single Oncor EECRF.

16 The amount of (over)/under-recovery for 2017 by energy efficiency
17 rate class was calculated by subtracting the revenues collected through
18 the EECRF factors effective in 2017 adjusted to remove the 2015
19 performance bonus amount (if any), the 2015 (over)/under-collection
20 amount, and the EECRF proceeding expense incurred in 2015 from the
21 actual 2017 energy efficiency program expenses.

22 Q. PLEASE DESCRIBE THE DETAILS OF THE DETERMINATION OF
23 ONCOR'S (OVER)/UNDER RECOVERY OF 2017 ENERGY
24 EFFICIENCY PROGRAM COSTS.

25 A. The Oncor energy efficiency revenues for 2017 were aggregated to the
26 energy efficiency rate class level from Company's books and records as
27 reflected in WP/JMS/2 page 1, column (d).

28 Oncor witness Mr. Stockard identified the actual Oncor energy
29 efficiency program expenses by rate code for 2017 as described in his
30 direct testimony. The actual 2017 energy efficiency program expenses

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1 were then aggregated to the energy efficiency rate class level as shown in
2 his Exhibit MRS-2 and my WP/JMS/2 page 1, column (c). The 2015
3 performance bonus and 2015 (over)/under-recovery were taken from
4 Docket No. 46013 and are shown on WP/JMS/2 page 1, columns (e) and
5 (g), respectively. The EECRF proceeding expense incurred in 2015 is for
6 the prosecution of Docket No. 44784, Oncor's 2016 EECRF filing.

7 Q. PLEASE DESCRIBE THE DETAILS OF THE DETERMINATION OF
8 SHARYLAND'S (OVER)/UNDER RECOVERY OF 2017 ENERGY
9 EFFICIENCY PROGRAM COSTS.

10 A. The Sharyland energy efficiency revenues for 2017 were aggregated to
11 the rate class level from the Company's books and records as reflected in
12 WP/JMS/2 page 2, column (d).

13 Oncor witness Mr. Stockard identified the actual Sharyland energy
14 efficiency program expenses by Sharyland rate class for 2017 as
15 described in his direct testimony and as shown in his WP/MRS/8 page 1,
16 column (d) and my WP/JMS/2 page 2, column (c). Sharyland did not seek
17 a 2015 performance bonus as shown on WP/JMS/2 page 2, column (e).
18 The 2015 (over)/under-recovery for Sharyland was taken from Docket No.
19 46024 and is shown on WP/JMS/2 page 2, column (g). The EECRF
20 proceeding expense incurred in 2015 is for the prosecution of Docket No.
21 44788, Sharyland's 2016 EECRF filing.

22 Q. PLEASE DESCRIBE THE HOW THE COMBINED (OVER)/UNDER
23 RECOVERIES OF 2017 ENERGY EFFICIENCY PROGRAM COSTS
24 FOR ONCOR AND SHARYLAND WERE CALCULATED.

25 A. Each component of the (over)/under recovery calculation for Oncor and
26 Sharyland were summed together as shown in WP/JMS/2 page 3. The
27 2017 (over)/under-recovery as shown in WP/JMS/2 page 3, column (h)
28 (and reflected in Exhibit JMS-4, column (b)) was then calculated by
29 subtracting the actual 2017 energy efficiency revenues (column (d))
30 adjusted for the 2015 performance bonus (column (e)), the 2015

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1 (over)/under-recovery (column (g)) and the EECRF proceeding expenses
2 incurred in 2015 (column (f)) from the 2017 actual energy efficiency
3 program costs (column (c)).

4 **V. ALLOCATION OF THE EARNED 2017 ENERGY EFFICIENCY**

5 **PERFORMANCE BONUS**

6 Q. DID ONCOR EARN AN ENERGY EFFICIENCY PERFORMANCE
7 BONUS BASED ON THE RESULTS OF ITS 2017 ENERGY EFFICIENCY
8 PROGRAMS?

9 A. Yes. Rule 25.181(h) states that a “utility that exceeds its demand and
10 energy reduction goals established in this section at a cost that does not
11 exceed the cost caps established in subsection (f)(7) of this section shall
12 be awarded a performance bonus....” Details of how Oncor exceeded its
13 demand and energy reduction goals without exceeding the applicable cost
14 caps, thus qualifying for a performance bonus, are described in Mr.
15 Stockard’s direct testimony.

16 Q. WHAT IS THE AMOUNT OF THE 2017 ENERGY EFFICIENCY
17 PERFORMANCE BONUS EARNED BY ONCOR AND HOW WAS IT
18 DETERMINED?

19 A. Under Rule 25.181(h), Oncor earned a \$7,774,182 energy efficiency
20 performance bonus for its 2017 program year achievements as shown on
21 Exhibit MRS-3, page 3. Oncor is requesting to recover this earned
22 performance bonus of \$7,774,182 through the 2019 EECRF. Mr.
23 Stockard’s direct testimony provides further explanation of the calculation
24 of Oncor’s earned performance bonus.

25 Q. PLEASE DESCRIBE THE METHODOLOGY USED BY ONCOR TO
26 ALLOCATE THE EARNED 2017 PERFORMANCE BONUS TO THE
27 ENERGY EFFICIENCY RATE CLASSES.

28 A. Oncor is proposing to use allocation factors based on the actual 2017
29 energy efficiency program costs by energy efficiency rate class. The 2017
30 performance bonus allocation for each energy efficiency rate class is

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1 calculated by multiplying the earned performance bonus amount of
2 \$7,774,182 (column (a) of Exhibit JMS-2) by the allocation factor for each
3 energy efficiency rate class (column (c) of Exhibit JMS-2). The
4 performance bonus allocation factors are the ratio of each energy
5 efficiency rate class' actual 2017 energy efficiency program costs to the
6 actual 2017 total energy efficiency program costs.

7 Q. WHY IS ONCOR USING THIS METHODOLOGY FOR ALLOCATING
8 THE ENERGY EFFICIENCY PERFORMANCE BONUS?

9 A. Oncor is adhering to the Commission Rules regarding performance bonus
10 allocation. Rule 25.181(h)(6) states: "The bonus shall be allocated in
11 proportion to the program costs associated with meeting the demand and
12 energy goals and allocated to eligible customers on a rate class basis."

13 **VI. ALLOCATION OF THE 2017 EECRF PROCEEDING EXPENSES**

14 Q. WHY IS ONCOR INCLUDING THE MUNICIPALITIES' EECRF
15 PROCEEDING EXPENSES INCURRED IN 2017 IN ITS 2019 TOTAL
16 ENERGY EFFICIENCY COSTS?

17 A. Substantive Rule 25.181(f) specifies that the determination of EECRFs are
18 ratemaking proceedings for purposes of PURA § 33.023. As such,
19 municipalities' EECRF proceeding (or rate case) expenses from EECRF
20 proceedings are reimbursable. Oncor is including these expenses
21 incurred in 2017 regarding Oncor's 2018 EECRF proceeding in Docket
22 No. 47235 as directed by Rule 25.181(f)(3)(B) which states: "For
23 municipalities' EECRF proceeding expenses, the utility may include only
24 expenses paid or owed for the immediately previous EECRF proceeding
25 conducted under this subsection for services reimbursable under PURA
26 §33.023(b)."

27 Q. WHAT IS THE AMOUNT OF THE MUNICIPALITIES' EECRF
28 PROCEEDING EXPENSE INCURRED IN 2017 FOR DOCKET NO.
29 47235 AND HOW WAS IT DETERMINED?

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1 A. The amount of the municipalities' EECRF proceeding expense for 2017
2 that was submitted to Oncor is \$8,971. These expenses were determined
3 by the entity (i.e., Steering Committee of Cities Served by Oncor ["Cities"])
4 representing several municipalities in Oncor's previous EECRF filing in
5 Docket No. 47235.

6 Q. PLEASE DESCRIBE THE METHODOLOGY USED BY ONCOR TO
7 ALLOCATE THE MUNICIPALITIES' EECRF PROCEEDING EXPENSE
8 TO THE ENERGY EFFICIENCY RATE CLASSES.

9 A. Oncor is proposing to use allocation factors based on the actual 2017
10 energy efficiency program costs by energy efficiency rate class. The
11 municipalities' EECRF proceeding expense incurred in 2017 for each
12 energy efficiency rate class is calculated by multiplying the total
13 municipalities' EECRF proceeding expense of \$8,971 (column (a) of
14 Exhibit JMS-3) by the allocation factor for each energy efficiency rate
15 class (column (c) of Exhibit JMS-3).

16 Q. WHY IS ONCOR USING THIS METHODOLOGY FOR ALLOCATING
17 THE MUNICIPALITIES' EECRF PROCEEDING EXPENSE?

18 A. Since the rule does not give direction on how to allocate the municipalities'
19 EECRF proceeding expenses to the energy efficiency rate classes, and
20 because through Cities the municipalities intervene and participate in the
21 EECRF proceedings on behalf of all of their constituents (i.e., all energy
22 efficiency rate classes), Oncor believes its proposed allocation
23 methodology for the municipalities' EECRF proceeding expenses incurred
24 in 2017 is most reasonably and fairly accomplished by using the ratio of
25 actual 2017 energy efficiency programs costs for each energy efficiency
26 rate class to the total 2017 actual energy efficiency program costs. This is
27 the same methodology used to allocate the performance bonus.

28 Q. HAS ONCOR REVIEWED THE REASONABLENESS OF THE
29 MUNICIPALITIES' EECRF PROCEEDING EXPENSE?

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1 A. No, Oncor has not reviewed those expenses for reasonableness. The
2 burden of proof for those expenses is the responsibility of the Cities. It is
3 my understanding that Cities will provide testimony or other evidence
4 proving the reasonableness of these expenses. If the Commission
5 ultimately determines that some of these expenses were not reasonable,
6 Oncor will modify the amount to equal the Commission approved amount.

7 Q. IS ONCOR PROPOSING TO INCLUDE EECRF PROCEEDING COSTS
8 INCURRED BY SHARYLAND? IF SO, WHAT IS THE AMOUNT OF THE
9 SHARYLAND EECRF PROCEEDING EXPENSE INCURRED IN 2017
10 AND HOW WAS IT DETERMINED?

11 A. Yes, Oncor is proposing to include 2017 EECRF proceeding costs
12 incurred by Sharyland in its 2019 total energy efficiency costs. The
13 amount of the EECRF proceeding expense for 2017 that was included as
14 a regulatory asset in Oncor's acquisition of Sharyland's energy efficiency
15 programs is \$44,330.

16 Q. HAS ONCOR REVIEWED THE REASONABLENESS OF SHARYLAND'S
17 EECRF PROCEEDING EXPENSE?

18 A. Yes, Oncor has obtained an affidavit from a Sharyland representative who
19 has determined that the EECRF proceeding costs incurred by Sharyland
20 in 2017 to support its 2018 EECRF are reasonable, necessary, and should
21 be approved. See Mr. Stockard's testimony for the affidavit and more
22 information.

23 Q. WHAT IS THE TOTAL 2017 EECRF PROCEEDING EXPENSE ONCOR
24 IS REQUESTING IN THIS PROCEEDING?

25 A. Oncor is requesting \$53,301 for 2017 EECRF proceeding expenses which
26 is the sum of the municipalities served by Oncor and the Sharyland
27 EECRF proceeding expenses ($\$8,971 + \$44,330 = \$53,301$) as shown in
28 my Exhibit JMS-3 column (i).

29 VII. **EXEMPTION OF INDUSTRIAL CUSTOMERS FROM EECRF CHARGES**

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1 Q. WAS THERE A PROVISION ADDED IN THE ENERGY EFFICIENCY
2 RULEMAKING (PROJECT NO. 39674) THAT ALLOWED CERTAIN
3 INDUSTRIAL CUSTOMERS TO OPT-OUT OF PARTICIPATING IN AND
4 PAYING FOR ENERGY EFFICIENCY PROGRAMS?

5 A. Yes. The addition of Substantive Rule 25.181(w) requires utilities like
6 Oncor to exclude certain industrial customers from any energy efficiency
7 programs and costs included in the EECRF. Subsection (w) states, "The
8 account number(s) or ESID number(s) identified by the industrial customer
9 under this section shall not be charged for any costs associated with
10 programs provided under this section, including any shareholder bonus
11 awarded; nor shall the identified facilities be eligible to participate in utility-
12 administered energy efficiency programs during the term."

13 Q. HOW DID ONCOR DETERMINE THE ESIDS THAT QUALIFIED TO OPT-
14 OUT FROM EECRF CHARGES UNDER RULE 25.181(w)?

15 A. According to the rule, the following information was required to be
16 presented to the utility in order for an industrial customer taking electric
17 service at distribution voltage to qualify for the EECRF exemption: the
18 name of the industrial customer, a copy of the customer's Texas Sales
19 and Use Tax Exemption Certification (pursuant to Tax Code §151.317), a
20 description of the industrial process taking place at the consuming
21 facilities, and the customer's applicable account number or ESID number.
22 To facilitate an orderly process, Oncor posted on its website an application
23 form, directions to complete the form and a description of the opt-out
24 process. If an industrial customer provided the necessary information as
25 stated in the rule, then Oncor accepted the request for the EECRF opt-out
26 and notified the customer that the ESID(s) would not be charged the
27 EECRF.

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

29 A. As stated in Subsection (w), "...notices shall be submitted not later than
30 February 1 to be effective for the following program year." Oncor began

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1 the industrial opt-out process when notices were received through
2 February 1, 2013 that became effective with the first billing cycle of
3 January 2014. Oncor has subsequently received notices through February
4 1 of every year that became effective with the first billing cycle of January
5 the following year. Notices are effective for three years after their
6 acceptance.

7 Q. HOW DOES THE INDUSTRIAL OPT-OUT PROCESS AFFECT THE
8 NUMBER OF BILLING UNITS PER ENERGY EFFICIENCY RATE
9 CLASS?

10 A. Oncor estimated the amount of energy (kWh) for 2019 for each opt-out
11 ESID (i.e., those qualified for 2017-2019, 2018-2020, and 2019-2021) and
12 reduced the total estimated energy efficiency rate class energy amount
13 shown on my workpaper WP/JMS/3 accordingly. The 2019 billing units
14 used in the calculation of the 2019 EECRFs are shown on my Exhibit
15 JMS-4 column (f) and reflect the amount of energy for each energy
16 efficiency rate class adjusted for industrial opt-out ESIDs.

17 Q. HOW DID ONCOR ACCOUNT FOR SHARYLAND'S INDUSTRIAL OPT-
18 OUT CUSTOMERS?

19 A. Oncor received a list from Sharyland of the industrial opt-out customers
20 and the corresponding documentation for each opt-out ESID. Oncor then
21 used the Sharyland qualifying opt-out customers in the same way that
22 Oncor used its qualifying opt-out customers by reducing the estimated
23 2019 energy (kWh) for each energy efficiency rate class. The 2019
24 energy is then used as billing units in the calculation of the 2019 EECRFs.

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

27 Q. WHY IS ONCOR PROVIDING THE CALCULATION OF THE LINE LOSS
28 FACTOR IN THIS PROCEEDING?

29 A. According to Rule 25.181(f)(12)(F), the order in an EECRF proceeding
30 shall contain findings of fact regarding the reasonableness of "any

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1 calculations or estimates of system losses and line losses used in
2 calculating the charges....” Even though line losses are not used in
3 determining Oncor’s EECRF charges, they are used in the calculation of
4 energy efficiency goals. See the direct testimony of Oncor witness Mr.
5 Stockard for more information regarding Oncor’s demand reduction and
6 energy savings goals. It is Oncor’s understanding that at a previous open
7 meeting approving a utility’s EECRF case, the commissioners pointed out
8 that the demand reduction goal was reported at the meter rather than at
9 the source. Staff was directed to investigate how all utilities reported
10 energy efficiency goals and the application of line losses. In the spirit of
11 consistency and transparency, Staff has previously requested that utilities
12 use the utility’s latest approved line loss study in determining its line loss
13 factor for the calculation of demand reduction goal.

14 Q. HAS ONCOR CALCULATED THE LINE LOSS FACTOR USED IN
15 DETERMINING ENERGY EFFICIENCY GOALS?

16 A. Yes. Oncor has calculated the line loss factor used in determining energy
17 efficiency goals according to Staff’s recommendation as shown in my
18 workpaper WP/JMS/4. The calculation uses the actual loss factors used
19 in ERCOT Wholesale Settlement at the time of Oncor annual peak applied
20 to the actual Oncor annual system peak demand by voltage level using
21 load research data adjusted for industrial customers who have claimed the
22 exemption from energy efficiency program participation and also adjusted
23 to reflect Sharyland’s demand at Oncor peak. The ERCOT distribution
24 loss factors are based on the utility’s approved loss factors in effect for the
25 calendar year. For Oncor, 2017 loss factors are based on its most recent
26 rate case (Docket No. 46957) and 2013-16 is based on the rate case in
27 Docket No. 38929. The final calculation is a 5-year weighted average of
28 the annual loss factors adjusted for industrial opt-out to match the 5-year
29 average peak demand used in the calculation of the energy efficiency
30 demand goal. The resulting weighted line loss factor used in calculating

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1 the demand reduction goal is 5.932%. This line loss factor is also shown
2 in Mr. Stockard's direct testimony in Exhibit MRS-1, page 5, footnote in
3 Table 1.

4 **IX. CALCULATION OF THE PROPOSED 2019 ENERGY EFFICIENCY**

5 **COST RECOVERY FACTORS**

6 Q. HOW ARE THE PROPOSED ENERGY EFFICIENCY COST RECOVERY
7 FACTORS CALCULATED?

8 A. The proposed EECRFs are calculated by dividing the Total 2019 Energy
9 Efficiency Costs (column (g) of my Exhibit JMS-4) by the 2019 forecasted
10 opt-out adjusted energy for each energy efficiency rate class (column (f) of
11 my Exhibit JMS-4). These EECRFs are also included in proposed Rider
12 EECRF - Energy Efficiency Cost Recovery Factor (my Exhibits JMS-5
13 (clean) and JMS-6 (annotated)).

14 Q. HOW WAS THE 2019 FORECASTED OPT-OUT ADJUSTED ENERGY
15 BILLING UNITS BY ENERGY EFFICIENCY RATE CLASS
16 DETERMINED?

17 A. The forecasted number of energy billing units by energy efficiency rate
18 class for 2019, adjusted for industrial opt-outs, is based on the information
19 contained in Oncor's 2018 Energy and Demand Plan – 2019 Projections
20 as shown in WP/JMS/3.

21 **X. CONCLUSION**

22 Q. PLEASE SUMMARIZE YOUR DIRECT TESTIMONY.

23 A. Oncor has accurately calculated allocation factors based on the actual
24 2017 energy efficiency program costs by energy efficiency rate class. I
25 have used those factors to allocate the earned performance bonus
26 discussed by Mr. Stockard, and I have accurately calculated the amounts
27 by energy efficiency rate class to be recovered through an EECRF. I have
28 also used those same factors to allocate the EECRF proceeding expense,
29 and I have accurately calculated the amounts by energy efficiency rate
30 class to be recovered through an EECRF. I have compared the actual

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**Sherburne – Direct
Oncor Electric Delivery
Application for 2019 EECRF**

1 2017 energy efficiency costs provided by Mr. Stockard to the energy
2 efficiency revenues recovered in 2017 adjusted for the 2015 performance
3 bonus amount, the 2015 (over)/under-collection of energy efficiency costs,
4 and the EECRF proceeding expense incurred in 2015 to correctly
5 calculate the 2017 (over)/under-recovery by energy efficiency rate class. I
6 have also accurately calculated the proposed EECRFs on a per kWh
7 basis (reasonably adjusted for the exclusion of certain industrial
8 customers) and have included those factors in Rider EECRF - Energy
9 Efficiency Cost Recovery Factor. The proposed 2019 EECRF will result in
10 the recovery of Oncor's forecasted 2019 energy efficiency program costs,
11 the allocation of the 2017 (over)/under-recovered energy efficiency costs,
12 collection of the EECRF proceeding expenses incurred in 2017, Oncor's
13 estimated expenses relating to the Commission's evaluation,
14 measurement, and verification, and recovery of the earned 2017 energy
15 efficiency performance bonus. In addition, I have accurately calculated
16 the line loss factor used in determining Oncor's energy efficiency goals
17 according to Staff's recommendation to use the latest approved line loss
18 study. For all of these reasons, the proposed Rider EECRF is calculated
19 correctly, is just and reasonable and should be approved. The 2019
20 EECRF factors should be made effective beginning with bills rendered on
21 March 1, 2019.

22 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

23 A. Yes, it does.


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**Sherburne – Direct
Oncor Electric Delivery
Application for 2019 EECRF**

STATE OF TEXAS §
 §
COUNTY OF DALLAS §

BEFORE ME, the undersigned authority, on this day personally appeared J. Michael Sherburne, who, having been placed under oath by me, did depose as follows:

My name is J. Michael Sherburne. 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.

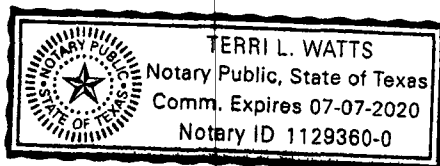


J. Michael Sherburne

SUBSCRIBED AND SWORN TO BEFORE ME by the said J. Michael Sherburne this 29th day of May, 2018.



Notary Public, State of Texas



PUC Docket No. _____

**Sherburne – Direct
Oncor Electric Delivery
Application for 2019 EECRF**

**Oncor Electric Delivery Company LLC
Application for 2019 Energy Efficiency Cost Recovery Factor
List of J. Michael Sherburne's Prior Commission Testimony**

Docket No.	Case Style
11037	APPLICATION OF TEXAS UTILITIES ELECTRIC COMPANY FOR APPROVAL OF CALCULATION OF HOUSE BILL TAX ADJUSTMENT FACTORS FOR 1992. PURSUANT TO SUBST R. 23.21(d)
11632	APPL. OF TU ELECTRIC CO FOR APPROVAL OF CALCULATION OF H.B. 11 TAX ADJUSTMENT FACTORS FOR 1993. PURSUANT TO SUBST. R. 23.21(d)
11735	APPLICATION OF TEXAS UTILITIES ELECTRIC COMPANY FOR AUTHORITY TO CHANGE RATES
13575	APPL OF TEXAS UTILITIES ELEC CO FOR APPROVAL OF ITS 1995 INTEGRATED RESOURCE PLAN (IRP) AND THE DEMAND-SIDE MANAGEMENT PROGRAMS AND CONTRACTS, RENEWABLE RESOURCES AGREEMENT, AND NOTICES OF INTENT ASSOCIATED THEREWITH, FOR APPROVAL OF CERTAIN COST RECOVER
20200	COMPLAINT OF TEXAS DEPARTMENT OF TRANSPORTATION AGAINST TEXAS UTILITIES ELECTRIC COMPANY
20546	FULL SWITCHOVER COMPLIANCE FILINGS OF TEXAS-NEW MEXICO POWER COMPANY, TEXAS UTILITIES ELECTRIC COMPANY, SOUTHWESTERN ELECTRIC SERVICE COMPANY, AND THEIR COOPERATIVE COMPETITORS
21527	APPLICATION OF TXU ELECTRIC COMPANY FOR FINANCING ORDER TO SECURITIZE REGULATORY ASSETS AND OTHER QUALIFIED COSTS
22051	APPLICATION OF TXU ELECTRIC COMPANY TO REVISE TARIFF; TABLE OF CONTENTS; SECTION 2.1 CITIES SERVED LISTING AND TARIFF PAGES REFLECTING THE PROPOSED CHANGES
22344	GENERIC ISSUES ASSOCIATED WITH APPLICATIONS FOR APPROVAL OF UNBUNDLED COST OF SERVICE RATE PURSUANT TO PURA SECTION 39.201 AND PUBLIC UTILITY COMMISSION SUBST. R. 25.344
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
24040	APPLICATION OF TXU ELECTRIC COMPANY TO IMPLEMENT PRICE TO BEAT FUEL FACTOR
24236	APPLICATION OF TXU ELECTRIC COMPANY FOR APPROVAL OF PRICE TO BEAT RATES IN COMPLIANCE WITH SUBST. R. 25.41(f)(1)(C)
25230	JOINT APPLICATION FOR APPROVAL OF STIPULATION REGARDING TXU ELECTRIC COMPANY TRANSITION TO COMPETITION ISSUES
25802	APPLICATION OF TXU ENERGY RETAIL COMPANY TO INCREASE PRICE TO BEAT FUEL FACTORS
27281	APPLICATION OF TXU ENERGY RETAIL COMPANY TO INCREASE PRICE TO BEAT FUEL FACTORS
27561	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. 25.192(g)(1)
28563	ONCOR ELECTRIC DELIVERY COMPANY'S COMPLIANCE TARIFF FILING AND PETITION TO PROVIDE COMPETITIVE METERING CREDIT PURSUANT TO SUBST. R. §25.311
28585	APPLICATION OF TXU SESCO ENERGY SERVICES COMPANY TO INCREASE PRICE TO BEAT FUEL FACTORS AND REDUCE PRICE TO BEAT BASE RATES
28636	PETITION OF ONCOR ELECTRIC DELIVERY COMPANY PURSUANT TO P.U.C. SUBST. R. 25.41(f)(1) REGARDING SMALL COMMERCIAL POWER CONSUMPTION THRESHOLD TARGET
29208	TXU SESCO ENERGY SERVICES COMPANY TRUE-UP FILING PURSUANT TO PURA §39.262(e)
29425	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBSTANTIVE RULE 25.192(g)(1)
29516	APPLICATION OF TXU ENERGY RETAIL COMPANY TO INCREASE PRICE TO BEAT FUEL FACTORS
29837	APPLICATION OF TXU ENERGY RETAIL COMPANY TO INCREASE PRICE TO BEAT FUEL FACTORS
30802	APPLICATION OF TXU ELECTRIC DELIVERY COMPANY FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. 25.192(g)(1)
31841	PETITION OF TXU GENERATION COMPANY LP FOR ADMINISTRATIVE DETERMINATION THAT THE FORTY PERCENT THRESHOLD TARGET OF PURA §39.153(b) HAS BEEN MET
32462	APPLICATION OF TXU ELECTRIC DELIVERY COMPANY FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. 25.192(g)(1)
33904	APPLICATION OF TXU ELECTRIC DELIVERY COMPANY FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(g)(1)
34040	PETITION BY COMMISSION STAFF FOR A REVIEW OF THE RATES OF TXU ELECTRIC DELIVERY COMPANY
35398	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(g)(1)
35634	ONCOR ELECTRIC DELIVERY COMPANY LLC'S REQUEST FOR APPROVAL OF ENERGY EFFICIENCY COST RECOVERY FACTOR
35690	PETITION OF BIG COUNTRY ELECTRIC COOPERATIVE, INC. FOR A CEASE AND DESIST ORDER
35717	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR AUTHORITY TO CHANGE RATES
35718	ONCOR ELECTRIC DELIVERY COMPANY LLC'S REQUEST FOR APPROVAL OF ADVANCED METERING SYSTEM (AMS) DEPLOYMENT PLAN AND REQUEST FOR ADVANCED METERING SYSTEM (AMS) SURCHARGE
36530	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR RATE CASE EXPENSES PERTAINING TO PUC DOCKET NO. 35717
36958	ONCOR ELECTRIC DELIVERY LLC'S APPLICATION FOR 2010 ENERGY EFFICIENCY COST RECOVERY FACTOR

**Oncor Electric Delivery Company LLC
Application for 2019 Energy Efficiency Cost Recovery Factor**

List of J. Michael Sherburne's Prior Commission Testimony

<u>Docket No.</u>	<u>Case Style</u>
37496	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(g)(1)
38217	ONCOR ELECTRIC DELIVERY LLC'S APPLICATION FOR 2011 ENERGY EFFICIENCY COST RECOVERY FACTOR
38495	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(g)(1)
38929	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR AUTHORITY TO CHANGE RATES
39239	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR RATE CASE EXPENSE SEVERED FROM PUC DOCKET NO. 38929
39375	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC FOR 2012 ENERGY EFFICIENCY COST RECOVERY FACTOR
39644	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
40142	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
40361	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC FOR 2013 ENERGY EFFICIENCY COST RECOVERY FACTOR
40603	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
41166	APPLICATION OF ONCOR ELECTRIC DELIVERY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
41544	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC FOR 2014 ENERGY EFFICIENCY COST RECOVERY FACTOR
41706	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
41890	COMPLIANCE TARIFF OF ONCOR ELECTRIC DELIVERY COMPANY LLC REGARDING THE RULEMAKING RELATED TO ADVANCED METERING ALTERNATIVES, PURSUANT TO SUBST. R. §25.133(e)(1)
42113	REMAND OF DOCKET NO. 36530 (APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR RATE CASE EXPENSES RELATED TO PUC DOCKET NO. 35717)
42267	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
42559	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC FOR 2015 ENERGY EFFICIENCY COST RECOVERY FACTOR
42706	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
44363	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
44784	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC TO ADJUST ITS ENERGY EFFICIENCY COST RECOVERY FACTOR
44968	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO SUBST. R. §25.192(h)(1)
45854	COMPLAINT OF GIOVANNI HOMES CORPORATION AGAINST ONCOR ELECTRIC DELIVERY COMPANY LLC
46013	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC TO ADJUST ITS ENERGY EFFICIENCY COST RECOVERY FACTOR
46210	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO 16 TEX. ADMIN. CODE §25.192(h)(1)
46825	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO 16 TEX. ADMIN. CODE §25.192(h)(1)
46957	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR AUTHORITY TO CHANGE RATES
47235	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY, LLC TO ADJUST ITS ENERGY EFFICIENCY COST RECOVERY FACTOR
47988	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR INTERIM UPDATE OF WHOLESALE TRANSMISSION RATES PURSUANT TO 16 TEX. ADMIN. CODE §25.192(h)(1)
48231	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR APPROVAL OF A DISTRIBUTION COST RECOVERY FACTOR PURSUANT TO 16 TEX. ADMIN. CODE §25.243
48325	APPLICATION OF ONCOR ELECTRIC DELIVERY COMPANY LLC FOR AUTHORITY TO DECREASE RATES BASED ON THE TAX CUTS AND JOBS ACT OF 2017

Oncor Electric Delivery Company LLC
Application for 2019 Energy Efficiency Cost Recovery Factor

Performance Bonus Allocation

	(a) Performance Bonus ¹		
Performance Bonus for 2017 Energy Efficiency Programs	\$7,774,182		
Energy Efficiency Rate Class	(b) 2017 Energy Efficiency Program Costs ²	(c) Performance Bonus Allocation Factors	(d) = (a) * (c) Allocated Performance Bonus
Residential Service	29,915,725	61.23069382%	\$4,760,186
Secondary Service ≤ 10 kW	765,131	1.56604936%	\$121,747
Secondary Service > 10 kW	15,756,983	32.25096505%	\$2,507,249
Primary Service ≤ 10 kW	0	0.00000000%	\$0
Primary Service > 10 kW			
Distribution Line	2,242,087	4.58904281%	\$356,761
Substation	39,068	0.07996332%	\$6,216
Transmission Service			
Non Profit	138,406	0.28328564%	\$22,023
For Profit	0	0.00000000%	\$0
Lighting Service	0	0.00000000%	\$0
Total	48,857,400	100.00000000%	\$7,774,182

¹Exhibit MRS-4 column (h)

²Workpaper WP/JMS/2 page 1, column (c)

Note: Sharyland does not seek a performance bonus associated with program year 2017.

Oncor Electric Delivery Company LLC
Application for 2019 Energy Efficiency Cost Recovery Factor

EECRF Proceeding Expense Allocation

EECRF Proceeding Expense for 2017	(a) Oncor EECRF Proceeding Expense ¹ \$8,971			(e) Sharyland EECRF Proceeding Expense ³ \$44,330			Total (i) = (d) + (h) Total Allocated EECRF Proceeding Expense
	Oncor			Sharyland			
Energy Efficiency Rate Class	(b) Oncor 2017 Energy Efficiency Program Costs ²	(c) EECRF Proceeding Expense Allocation Factors	(d) = (a) * (c) Oncor Allocated EECRF Proceeding Expense	(f) Sharyland 2017 Energy Efficiency Program Costs ⁴	(g) EECRF Proceeding Expense Allocation Factors	(h) = (e) * (g) Sharyland Allocated EECRF Proceeding Expense	(i) = (d) + (h) Total Allocated EECRF Proceeding Expense
Residential Service	29,915,725	61.23069382%	\$5,493	360,974	73.44483102%	\$32,558	\$38,051
Secondary Service ≤ 10 kW	765,131	1.56604936%	\$141	5,340	1.08649210%	\$482	\$623
Secondary Service > 10 kW	15,756,983	32.25096505%	\$2,893	62,363	12.68855928%	\$5,625	\$8,518
Primary Service ≤ 10 kW	0	0.00000000%	\$0		0.00000000%	\$0	\$0
Primary Service > 10 kW							
Distribution Line	2,242,087	4.58904281%	\$412	62,813	12.78011760%	\$5,665	\$6,077
Substation	39,068	0.07996332%	\$7		0.00000000%	\$0	\$7
Transmission Service							
Non Profit	138,406	0.28328564%	\$25	0	0.00000000%	\$0	\$25
For Profit	0	0.00000000%	\$0		0.00000000%	\$0	\$0
Lighting Service	0	0.00000000%	\$0	0	0.00000000%	\$0	\$0
Total	48,857,400	100.00000000%	\$8,971	491,490	100.00000000%	\$44,330	\$53,301

¹Exhibit MRS-4 column (h) - includes Oncor's municipal EECRF proceeding costs only

²Workpaper WP/JMS/2 page 1, column (c)

³Exhibit MRS-4 column (h) - includes Sharyland's EECRF Proceeding Expense

⁴Workpaper WP/MRS/8 page 1, column (d)

Oncor Electric Delivery Company LLC
Application for 2019 Energy Efficiency Cost Recovery Factor
Calculation of 2019 Energy Efficiency Cost Recovery Factors

Line	Energy Efficiency Rate Class	2017 (Over)/Under Recovery ¹	2019 Program Costs ²	2017 Performance Bonus ³	2017 EECRF Proceeding Expense ⁴	2019 Billing Determinant (kWh) ⁵	Total 2019 Energy Efficiency Costs	2019 Energy Efficiency Cost Recovery Factor (EECRF)
	(a)	(b)	(c)	(d)	(e)	(f)	(g) = (b)+(c)+(d)+(e)	(h) = (g) / (f)
1	Residential Service	\$ 1,439,424	\$ 28,899,466	\$ 4,760,186	\$ 38,051	45,726,770,000	\$ 35,137,127	\$ 0.000768
2	Secondary Service ≤ 10 kW	\$ (253,384)	\$ 743,912	\$ 121,747	\$ 623	1,880,180,000	\$ 612,898	\$ 0.000326
3	Secondary Service > 10 kW	\$ (642,651)	\$ 17,864,129	\$ 2,507,249	\$ 8,518	46,910,540,000	\$ 19,737,245	\$ 0.000421
4	Primary Service ≤ 10 kW	\$ (1,291)	\$ -	\$ -	\$ -	20,740,000	\$ (1,291)	\$ (0.000062)
5	Primary Service > 10 kW							
6	Distribution Line	\$ (339,532)	\$ 2,678,683	\$ 356,761	\$ 6,077	11,320,350,000	\$ 2,701,989	\$ 0.000239
7	Substation	\$ (38,184)	\$ 40,748	\$ 6,216	\$ 7	2,233,820,000	\$ 8,787	\$ 0.000004
8	Transmission Service							
9	Non Profit	\$ (127,205)	\$ 131,461	\$ 22,023	\$ 25	1,500,800,000	\$ 26,304	\$ 0.000018
10	For Profit	\$ -	\$ -	\$ -	\$ -	13,016,350,000	\$ -	\$ -
11	Lighting Service	\$ -	\$ -	\$ -	\$ -	440,330,000	\$ -	\$ -
12								
13	Total	\$ 37,177	\$ 50,358,399	\$ 7,774,182	\$ 53,301		\$ 58,223,059	

¹WP/JMS/2 page 3, column (h)

²Exhibit MRS-4

³Exhibit JMS-2 column (d)

⁴Exhibit JMS-3 column (i)

⁵Source: Oncor Electric Delivery Company LLC's 2018 Energy and Demand Plan as shown on WP/JMS/3

**Tariff for Retail Delivery Service
Oncor Electric Delivery Company LLC**

6.1.1 Delivery System Charges
Applicable: Entire Certified Service Area
Effective Date: March 1, 2019

Sheet: 6.3
Page 1 of 1
Revision: Thirteen

**6.1.1.6.3 Rider EECRF - Energy Efficiency Cost Recovery
Factor**

APPLICATION

Applicable, pursuant to PURA § 39.905(b)(4) and Substantive Rule § 25.181(f), 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, 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)

Effective Date	Residential Service	Secondary Service		Primary Service			Transmission Service		Lighting Service
	(\$/kWh)	≤ 10 kW* (\$/kWh)	> 10 kW* (\$/kWh)	≤ 10 kW* (\$/kWh)	> 10 kW – Distribution Line* (\$/kWh)	> 10 kW – Substation* (\$/kWh)	Non-Profit (\$/kWh)	For Profit (\$/kWh)	(\$/kWh)
March 1, 2019	0.000768	0.000326	0.000421	(0.000062)	0.000239	0.000004	0.000018	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)	(\$ / 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(w).

NOTICE

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

**Tariff for Retail Delivery Service
Oncor Electric Delivery Company LLC**

6.1.1 Delivery System Charges
Applicable: Entire Certified Service Area
Effective Date: March 1, 2019

Sheet: 6.3
Page 1 of 1
Revision: Thirteen

IT

6.1.1.6.3 Rider EECRF - Energy Efficiency Cost Recovery Factor

APPLICATION

Applicable, pursuant to PURA § 39.905(b)(4) and Substantive Rule § 25.181(f), 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, any approved energy efficiency performance bonus for the previous year, any municipalities' 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.

IT

MONTHLY RATE

Energy Efficiency Cost Recovery Factor (EECRF)

Effective Date	Residential Service	Secondary Service		Primary Service			Transmission Service		Lighting Service
	(\$/kWh)	≤ 10 kW*	> 10 kW*	≤ 10 kW*	> 10 kW – Distribution Line*	> 10 kW – Substation*	Non-Profit	For Profit	(\$/kWh)
March 1, 2019	0.000768	0.000326	0.000421	(0.000062)	0.000239	0.000004	0.000018	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)	(\$ / 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)

IT

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

NOTICE

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

Testimony
Workpapers
Of
Michael R. Stockard

2017 Commercial Load Management By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive	Ratio
D0	6,074.23	18,222.8	\$200,605.43	0.08591
D6	144.31	432.9	\$5,620.91	0.00241
E0	37,162.84	111,488.2	\$1,231,178.40	0.52726
EC	818.33	2,455.0	\$32,160.00	0.01377
EJ	1,517.08	4,551.2	\$53,148.89	0.02276
EQ	6,167.64	18,502.9	\$198,234.48	0.08490
K0	18,904.38	56,713.2	\$575,032.23	0.24626
K1	113.18	339.6	\$3,678.53	0.00158
L0	1,158.39	3,475.2	\$35,374.32	0.01515
Grand Total	72,000.00	216,181.0	\$ 2,335,033.20	1.00000

Rate Code	kW Savings	kWh Savings	Incentive
D0	107.59	322.8	\$4,189.90
D0	1324.69	3,974.1	\$40,449.60
D0	115.28	345.9	\$3,510.72
D0	321.82	965.5	\$9,845.28
D0	156.81	470.4	\$5,182.48
D0	1013.29	3,039.9	\$32,806.46
D0	311.01	933.0	\$10,059.65
D0	985.55	2,956.6	\$31,905.60
D0	109.84	329.5	\$3,565.92
D0	96.36	289.1	\$3,115.49
D0	1531.99	4,596.0	\$55,974.34
D6	144.31	432.9	\$5,620.91
E0	686.22	2,058.6	\$26,725.12
E0	29.96	89.9	\$1,160.28
E0	497.06	1,491.2	\$19,350.89
E0	356.82	1,070.5	\$13,897.58

Rate Code	kW Savings	kWh Savings	Incentive
E0	248.81	746.4	\$9,950.70
E0	1630.54	4891.6	\$65,226.90
E0	464.86	1394.6	\$14,195.52
E0	1049.40	3148.2	\$32,054.40
E0	-44.62	-133.9	-\$1,373.76
E0	-48.45	-145.3	-\$1,488.24
E0	-17.30	-51.9	-\$534.24
E0	31.91	95.7	\$992.16
E0	805.95	2417.9	\$24,613.20
E0	299.60	898.8	\$9,158.40
E0	2504.89	7514.7	\$76,510.80
E0	124.53	373.6	\$3,816.00
E0	135.21	405.6	\$4,121.28
E0	643.77	1931.3	\$19,652.40
E0	414.60	1243.8	\$12,669.12
E0	33.64	100.9	\$1,030.32

2017 Commercial Load Management By Rate Code

E0	988.66	2,966.0	\$38,495.51
E0	81.05	243.1	\$3,158.54

E0	-11.18	-33.6	\$4,350.24
E0	1844.26	5532.8	\$60,884.77

Rate Code	kW Savings	kWh Savings	Incentive
E0	87.36	262.1	\$3,416.38
E0	31.94	95.8	\$1,279.20
E0	87.53	262.6	\$3,505.50
E0	231.00	693.0	\$9,240.00
E0	534.83	1,604.5	\$21,393.20
E0	870.60	2,611.8	\$28,800.00
E0	108.98	326.9	\$3,628.10
E0	289.61	868.8	\$9,634.70
E0	1735.79	5,207.4	\$57,737.20
E0	162.10	486.3	\$5,255.04
E0	132.31	396.9	\$4,279.10
E0	290.88	872.6	\$9,421.54
E0	339.80	1,019.4	\$10,998.05
E0	99.08	297.2	\$3,190.56
E0	103.80	311.4	\$3,378.24
E0	100.34	301.0	\$3,265.63
E0	752.27	2,256.8	\$24,360.86
E0	80.84	242.5	\$2,627.52
E0	72.00	216.0	\$2,327.23
E0	550.18	1,650.5	\$17,792.06
E0	283.97	851.9	\$9,196.32
E0	233.09	699.3	\$7,544.74
E0	94.20	282.6	\$3,040.42
E0	134.73	404.2	\$4,354.18
E0	95.71	287.1	\$3,115.49
E0	134.70	404.1	\$4,354.18
E0	111.86	335.6	\$3,603.46

Rate Code	kW Savings	kWh Savings	Incentive
E0	2938.51	8815.5	\$97,012.97
E0	177.54	532.6	\$5,853.59
E0	716.68	2150.1	\$23,675.34
E0	92.23	276.7	\$3,002.88
E0	766.70	2300.1	\$24,811.30
E0	107.84	323.5	\$3,490.85
E0	113.75	341.2	\$3,678.53
E0	84.72	254.1	\$2,740.13
E0	4659.55	13978.7	\$125,906.87
E0	1161.08	3483.2	\$42,411.04
E0	795.87	2387.6	\$29,072.23
E0	1631.98	4895.9	\$59,622.40
EC	818.33	2455.0	\$32,160.00
EJ	460.85	1382.5	\$18,400.80
EJ	22.30	66.9	\$686.88
EJ	818.46	2455.4	\$27,030.90
EJ	118.68	356.0	\$3,914.82
EJ	96.79	290.4	\$3,115.49
EQ	198.15	594.4	\$7,709.42
EQ	2367.36	7102.1	\$72,275.04
EQ	164.51	493.5	\$5,037.12
EQ	7.45	22.3	\$228.96
EQ	68.12	204.4	\$2,098.80
EQ	3178.94	9536.8	\$104,954.46
EQ	127.66	383.0	\$4,128.96
EQ	55.45	166.4	\$1,801.73
K0	133.51	400.5	\$5,195.48

2017 Commercial Load Management By Rate Code

E0	115.30	345.9	\$3,716.06
E0	106.05	318.2	\$3,415.78
E0	81.23	243.7	\$2,627.52
E0	138.84	416.5	\$4,504.32
Rate Code	kW Savings	kWh Savings	Incentive
E0	109.37	328.1	\$3,528.38
E0	24.51	73.5	\$788.26
E0	109.18	327.6	\$3,528.38
E0	79.79	239.4	\$2,589.98
E0	389.91	1,169.7	\$12,612.10
E0	14.25	42.8	\$450.43
E0	1628.37	4,885.1	\$52,700.54
E0	515.81	1,547.4	\$16,703.52
E0	104.09	312.3	\$3,378.24
K0	403.83	1211.5	\$12,325.68
K0	1343.12	4029.4	\$44,330.68
K0	116.83	350.5	\$3,791.14

K0	82.60	247.8	\$3,308.70
K0	533.16	1599.5	\$21,328.20
K0	3280.70	9842.1	\$113,130.86
K0	2533.06	7599.2	\$87,349.14
Rate Code	kW Savings	kWh Savings	Incentive
K0	106.79	320.4	\$3,453.31
K0	109.75	329.2	\$3,565.92
K0	1840.18	5520.5	\$49,709.63
K0	4083.07	12249.2	\$110,304.58
K0	774.06	2322.2	\$20,924.00
K0	3563.72	10691.2	\$96,314.92
K1	113.18	339.6	\$3,678.53
L0	679.99	2,040.0	\$20,759.04
L0	32.65	98.0	\$992.16
L0	-33.66	-101.0	-\$1,030.32
L0	302.11	906.3	\$9,234.72
L0	177.30	531.9	\$5,418.72
	72,060.38	216,181.0	2,335,033.20

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive	Ratio
B0	556.02	3,438,266.6	\$426,247.44	0.05433
D0	6,881.40	35,582,803.0	\$3,933,104.63	0.50128
D1	41.61	293,234.8	\$28,941.39	0.00369
D4	67.14	529,298.5	\$43,765.16	0.00558
D6	26.45	96,596.6	\$15,437.35	0.00197
DC	242.58	1,088,308.7	\$162,096.26	0.02066
DJ	177.92	547,338.3	\$99,252.42	0.01265
DK	3.56	15,041.5	\$1,823.18	0.00023
DQ	252.20	919,088.2	\$148,584.28	0.01894
DR	7.56	64,922.3	\$4,398.07	0.00056
E0	2,093.32	17,476,039.2	\$2,127,827.09	0.27119
EC	39.29	160,488.1	\$19,244.18	0.00245
EJ	136.52	441,489.6	\$83,427.00	0.01063
EQ	128.52	703,304.4	\$120,773.14	0.01539
K0	557.87	4,634,357.6	\$509,302.17	0.06491
K1	9.56	42,522.2	\$5,036.67	0.00064
N0	159.97	1,214,265.7	\$116,915.12	0.01490
Grand Total	11,381.39	67,247,365.3	\$7,846,175.57	1.00000

Rate Code	kW Savings	kWh Savings	Incentive
B0	0.01	90.5	\$7.59
B0	0.04	237.1	\$21.96
B0	0.04	239.8	\$22.20
B0	0.04	239.8	\$22.20
B0	0.04	239.8	\$22.20
B0	0.28	1,552.3	\$146.13
B0	0.26	1,721.5	\$153.18
B0	0.27	1,762.2	\$156.82
B0	0.27	1,762.2	\$156.82
B0	0.27	1,762.2	\$156.82

Rate Code	kW Savings	kWh Savings	Incentive
B0	0.36	2,349.7	\$209.11
B0	0.36	2,349.7	\$209.11
B0	0.37	2,404.0	\$246.04
B0	0.45	2,937.0	\$261.36
B0	0.45	2,937.0	\$261.36
B0	0.45	2,937.0	\$261.36
B0	0.55	2,989.7	\$284.62
B0	0.56	3,056.5	\$290.97
B0	0.54	3,524.5	\$313.65
B0	0.54	3,524.5	\$313.65

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
B0	0.54	3,524.5	\$313.65
B0	0.54	3,524.5	\$313.65
B0	0.54	3,524.5	\$313.65
B0	0.54	3,524.5	\$313.65
B0	0.79	2,839.0	\$333.02
B0	0.62	4,053.4	\$360.71
B0	0.63	4,111.8	\$365.93
B0	0.63	4,111.8	\$365.93
B0	0.63	4,111.8	\$365.93
B0	0.63	4,111.8	\$365.93
B0	0.63	4,111.8	\$365.93
B0	0.81	4,449.4	\$423.56
B0	0.81	4,449.4	\$423.56
B0	0.81	4,449.4	\$423.56
B0	0.81	4,449.4	\$423.56
B0	0.84	4,619.7	\$439.78
B0	0.81	5,286.7	\$470.47
B0	1.06	5,815.6	\$553.64
B0	1.06	5,815.6	\$553.64
B0	1.10	6,049.4	\$575.88
B0	1.24	6,804.4	\$647.76
B0	1.24	6,804.4	\$647.76
B0	1.07	7,020.2	\$718.45
B0	1.24	7,536.9	\$792.72
B0	1.36	8,926.9	\$794.44
B0	1.37	8,989.0	\$799.99
B0	1.39	9,114.7	\$811.13
B0	2.43	15,937.7	\$993.78
B0	2.95	19,304.7	\$1,718.00
B0	3.54	23,176.5	\$2,062.54
B0	3.67	24,020.5	\$2,137.69
B0	3.70	24,214.1	\$2,154.88
B0	4.57	13,184.7	\$2,601.53
B0	4.00	26,236.2	\$2,685.05

Rate Code	kW Savings	kWh Savings	Incentive
B0	8.97	40,777.8	\$3,386.44
B0	4.69	24,746.2	\$3,734.89
B0	8.29	46,762.6	\$4,251.05
B0	11.90	67,105.4	\$6,446.00
B0	12.54	82,175.5	\$7,313.06
B0	34.34	269,395.7	\$15,802.36
B0	29.80	195,240.8	\$19,981.40
B0	140.57	639,156.3	\$65,877.74
B0	197.22	823,458.6	\$136,447.40
B0	53.76	927,075.2	\$132,282.16
D0	-0.50	-3,958.7	(\$380.62)
D0	-0.33	-2,138.5	(\$190.32)
D0	-0.02	-157.7	(\$14.04)
D0	0.00	-10.2	(\$1.10)
D0	0.01	55.2	\$3.95
D0	0.01	77.6	\$6.31
D0	0.02	105.9	\$7.59
D0	0.02	70.4	\$7.72
D0	0.03	133.6	\$9.74
D0	0.03	146.8	\$10.69
D0	0.03	142.6	\$14.87
D0	0.04	239.8	\$22.20
D0	0.07	437.1	\$27.96
D0	0.06	465.5	\$37.92
D0	0.12	555.6	\$39.25
D0	0.06	468.2	\$40.14
D0	0.09	564.8	\$40.49
D0	0.07	511.2	\$43.30
D0	0.11	512.4	\$50.26
D0	0.11	508.2	\$50.28
D0	0.16	724.1	\$52.81
D0	0.18	806.8	\$58.48
D0	0.17	754.2	\$80.15

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.27	1,186.1	\$86.49
D0	0.14	1,057.2	\$90.64
D0	0.28	1,244.8	\$90.79
D0	0.22	1,461.7	\$91.13
D0	0.24	1,021.0	\$104.39
D0	0.25	911.6	\$106.95
D0	0.27	1,753.9	\$109.37
D0	0.25	1,130.1	\$120.04
D0	0.27	1,217.9	\$129.36
D0	0.28	1,552.3	\$146.13
D0	0.28	1,552.3	\$146.13
D0	0.28	1,552.3	\$146.13
D0	0.28	1,552.3	\$146.13
D0	0.25	1,659.4	\$147.67
D0	0.37	1,598.1	\$161.35
D0	0.28	1,819.2	\$161.90
D0	0.40	2,630.9	\$164.04
D0	0.30	2,330.3	\$189.90
D0	0.45	1,848.0	\$191.61
D0	0.43	1,995.3	\$195.69
D0	0.62	2,832.9	\$204.59
D0	0.39	2,156.2	\$205.27
D0	0.68	3,170.2	\$226.31
D0	0.73	3,306.3	\$274.58
D0	0.59	2,664.6	\$280.18
D0	0.54	3,524.5	\$313.65
D0	0.66	3,151.7	\$318.54
D0	0.65	3,110.4	\$319.01
D0	0.86	4,092.5	\$332.62
D0	0.71	3,171.3	\$336.84
D0	0.58	3,816.0	\$339.59
D0	0.76	3,504.0	\$373.47
D0	0.56	4,419.4	\$376.89

Rate Code	kW Savings	kWh Savings	Incentive
D0	0.52	4,092.6	\$383.59
D0	0.70	4,560.5	\$405.87
D0	0.72	4,699.3	\$418.19
D0	0.90	4,675.8	\$437.45
D0	0.76	5,249.1	\$457.91
D0	0.79	5,158.9	\$458.74
D0	0.83	5,411.0	\$481.54
D0	1.53	6,913.7	\$501.16
D0	1.08	4,793.0	\$509.03
D0	1.15	5,208.0	\$515.08
D0	1.10	4,896.9	\$520.12
D0	1.33	8,377.1	\$529.12
D0	0.89	6,305.2	\$545.94
D0	1.14	5,506.0	\$552.17
D0	1.06	5,815.6	\$553.64
D0	1.10	6,049.4	\$575.88
D0	1.10	6,049.4	\$575.88
D0	1.11	5,066.8	\$576.32
D0	1.20	5,921.2	\$587.97
D0	1.47	9,626.6	\$600.22
D0	1.28	5,682.1	\$603.63
D0	1.29	5,741.2	\$609.56
D0	0.81	6,382.8	\$614.11
D0	1.29	5,818.1	\$614.17
D0	0.95	7,499.8	\$639.60
D0	1.10	7,219.5	\$642.49
D0	1.24	6,804.4	\$647.76
D0	1.12	7,353.7	\$654.41
D0	1.19	7,795.3	\$693.79
D0	1.20	7,888.1	\$701.98
D0	1.54	6,838.0	\$726.29
D0	1.25	8,767.6	\$740.06
D0	1.82	11,954.6	\$745.37

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
D0	1.48	2,235.1	\$747.04
D0	1.59	7,078.9	\$751.63
D0	1.06	4,645.3	\$755.64
D0	1.24	9,074.6	\$778.00
D0	1.84	6,905.3	\$778.97
D0	1.81	7,055.7	\$782.01
D0	1.09	7,960.6	\$784.87
D0	1.71	13,503.8	\$790.88
D0	1.66	7,542.6	\$792.89
D0	1.28	9,310.2	\$798.20
D0	1.29	9,443.3	\$809.64
D0	1.33	3,255.0	\$829.07
D0	1.94	13,621.4	\$829.25
D0	1.36	9,940.0	\$852.21
D0	1.80	8,337.2	\$852.23
D0	1.91	8,694.0	\$859.92
D0	1.41	10,299.8	\$883.02
D0	1.94	8,605.1	\$914.04
D0	1.38	9,026.9	\$923.82
D0	1.54	5,195.2	\$947.14
D0	1.93	10,121.6	\$981.40
D0	1.74	11,389.5	\$1,013.58
D0	2.35	11,395.6	\$1,141.97
D0	2.01	10,188.4	\$1,151.64
D0	1.98	12,987.0	\$1,155.76
D0	2.00	13,094.9	\$1,165.36
D0	1.99	13,599.6	\$1,191.88
D0	2.51	11,322.8	\$1,195.21
D0	1.79	11,737.7	\$1,201.26
D0	2.07	13,586.4	\$1,209.10
D0	2.80	4,733.4	\$1,275.24
D0	2.16	15,033.4	\$1,309.40
D0	2.25	14,753.2	\$1,312.59

Rate Code	kW Savings	kWh Savings	Incentive
D0	2.27	14,886.7	\$1,324.82
D0	2.28	14,944.3	\$1,329.97
D0	3.12	12,154.8	\$1,347.16
D0	3.03	13,769.7	\$1,361.73
D0	1.92	15,080.9	\$1,413.52
D0	2.45	16,024.0	\$1,426.03
D0	2.45	16,024.0	\$1,426.03
D0	2.84	6,377.0	\$1,443.32
D0	2.16	15,033.4	\$1,505.81
D0	2.60	17,035.0	\$1,515.99
D0	3.19	14,671.1	\$1,534.42
D0	2.67	17,504.2	\$1,557.77
D0	2.31	7,066.8	\$1,598.41
D0	3.60	16,384.8	\$1,620.39
D0	2.87	18,797.1	\$1,672.83
D0	2.52	16,495.8	\$1,688.20
D0	2.55	16,722.9	\$1,710.79
D0	4.98	32,619.4	\$1,780.22
D0	3.83	17,435.0	\$1,797.02
D0	3.90	30,674.5	\$1,798.05
D0	3.81	17,187.5	\$1,814.27
D0	4.43	28,995.0	\$1,819.78
D0	3.23	21,131.0	\$1,880.51
D0	4.64	24,094.8	\$1,889.89
D0	3.32	21,746.2	\$1,935.26
D0	3.32	21,746.2	\$1,935.26
D0	3.61	9,273.1	\$1,946.42
D0	5.50	28,811.0	\$1,958.30
D0	4.30	18,095.9	\$1,971.84
D0	1.94	14,983.5	\$1,996.08
D0	3.61	9,809.0	\$1,997.47
D0	3.20	18,863.8	\$2,008.18
D0	3.07	20,114.7	\$2,058.63

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
D0	4.46	20,119.0	\$2,081.55
D0	3.14	20,601.4	\$2,108.40
D0	3.16	20,727.3	\$2,121.27
D0	3.20	20,939.0	\$2,142.95
D0	4.50	21,335.2	\$2,158.47
D0	3.72	24,811.9	\$2,193.99
D0	3.87	8,259.2	\$2,214.30
D0	4.01	26,282.4	\$2,338.94
D0	4.08	20,795.8	\$2,346.09
D0	3.54	23,176.5	\$2,371.92
D0	5.08	23,543.4	\$2,406.47
D0	5.38	24,448.1	\$2,418.12
D0	4.57	13,184.7	\$2,601.53
D0	4.57	13,184.7	\$2,601.53
D0	4.57	13,184.7	\$2,601.53
D0	4.19	10,256.3	\$2,609.86
D0	3.46	16,901.0	\$2,628.55
D0	3.70	29,103.2	\$2,727.81
D0	2.82	19,992.2	\$2,731.36
D0	4.76	31,194.3	\$2,776.08
D0	4.80	31,460.5	\$2,799.74
D0	4.94	32,347.6	\$2,878.73
D0	4.46	27,854.4	\$2,900.09
D0	4.36	28,599.8	\$2,926.26
D0	5.44	24,718.2	\$2,929.84
D0	6.59	28,618.3	\$3,012.32
D0	5.81	13,713.3	\$3,017.87
D0	6.47	29,324.0	\$3,027.30
D0	3.68	16,383.9	\$3,039.75
D0	6.61	31,305.2	\$3,169.20
D0	5.48	35,868.1	\$3,192.03
D0	4.23	33,320.3	\$3,203.14
D0	4.25	16,038.4	\$3,280.98

Rate Code	kW Savings	kWh Savings	Incentive
D0	5.76	37,728.2	\$3,357.55
D0	7.47	33,964.4	\$3,359.31
D0	5.83	38,204.9	\$3,399.98
D0	5.09	33,399.4	\$3,416.10
D0	5.18	33,940.6	\$3,473.58
D0	6.02	39,423.6	\$3,508.45
D0	7.49	35,491.0	\$3,592.30
D0	7.76	35,000.4	\$3,621.12
D0	7.20	16,226.6	\$3,664.86
D0	7.67	36,533.4	\$3,688.26
D0	6.36	41,678.1	\$3,709.08
D0	8.37	37,727.8	\$3,745.06
D0	7.88	37,579.6	\$3,793.50
D0	7.97	37,914.2	\$3,829.96
D0	6.57	43,061.0	\$3,832.12
D0	8.03	38,266.2	\$3,863.43
D0	8.04	38,264.3	\$3,864.64
D0	8.04	38,274.8	\$3,865.25
D0	6.63	43,437.4	\$3,865.64
D0	6.64	43,492.5	\$3,870.55
D0	8.03	38,408.4	\$3,871.88
D0	7.03	33,274.7	\$3,874.22
D0	7.03	33,273.0	\$3,875.75
D0	8.08	38,525.0	\$3,889.51
D0	8.15	38,815.2	\$3,919.92
D0	8.18	38,964.4	\$3,935.21
D0	8.19	38,976.3	\$3,936.94
D0	8.21	39,118.6	\$3,950.47
D0	7.18	33,991.3	\$3,956.85
D0	8.38	38,821.6	\$3,968.23
D0	8.26	39,359.5	\$3,973.37
D0	9.35	35,393.7	\$3,976.08
D0	8.35	39,784.9	\$4,017.16

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Rate Code	kW Savings	kWh Savings	Incentive
D0	8.60	39,081.7	\$4,028.14
D0	9.29	69,744.5	\$4,059.98
D0	8.52	40,312.0	\$4,082.91
D0	7.43	35,423.1	\$4,112.40
D0	8.57	40,889.7	\$4,126.91
D0	7.44	20,493.0	\$4,143.49
D0	9.27	42,159.6	\$4,169.41
D0	7.19	47,116.8	\$4,193.08
D0	8.74	41,591.8	\$4,201.31
D0	8.77	41,767.6	\$4,218.55
D0	8.78	41,875.3	\$4,225.65
D0	8.19	37,227.1	\$4,234.43
D0	8.29	46,762.6	\$4,251.05
D0	8.29	46,762.6	\$4,251.05
D0	8.29	46,762.6	\$4,251.05
D0	8.29	46,762.6	\$4,251.05
D0	8.83	42,169.0	\$4,252.90
D0	6.36	41,645.6	\$4,262.11
D0	8.34	47,045.4	\$4,276.76
D0	8.95	42,401.8	\$4,291.22
D0	8.96	42,444.9	\$4,296.11
D0	8.94	42,557.0	\$4,297.97
D0	9.04	42,760.5	\$4,330.17
D0	9.02	42,965.3	\$4,338.92
D0	9.12	43,149.2	\$4,370.74
D0	7.95	37,876.2	\$4,398.38
D0	9.19	43,562.7	\$4,408.42
D0	6.60	43,264.5	\$4,427.75
D0	6.61	43,324.1	\$4,433.88
D0	5.11	30,862.6	\$4,441.56
D0	8.14	38,763.4	\$4,501.39
D0	7.75	50,741.2	\$4,515.63
D0	9.51	45,010.3	\$4,558.52
D0	9.52	45,066.3	\$4,563.81

Rate Code	kW Savings	kWh Savings	Incentive
D0	7.49	52,565.5	\$4,565.18
D0	8.26	39,377.5	\$4,572.18
D0	9.58	45,303.1	\$4,588.13
D0	7.89	51,706.2	\$4,601.51
D0	9.62	45,510.0	\$4,608.54
D0	9.62	45,531.4	\$4,609.72
D0	8.35	39,797.1	\$4,620.02
D0	9.65	45,677.4	\$4,625.25
D0	8.35	39,861.9	\$4,625.63
D0	9.68	45,843.4	\$4,640.89
D0	8.39	40,004.7	\$4,644.24
D0	9.71	45,944.1	\$4,652.35
D0	9.72	45,998.1	\$4,658.16
D0	4.73	26,826.0	\$4,658.21
D0	8.49	40,191.3	\$4,679.19
D0	10.34	79,783.5	\$4,704.69
D0	7.76	54,140.7	\$4,713.29
D0	7.78	54,247.9	\$4,722.85
D0	9.88	46,761.9	\$4,735.13
D0	7.83	54,536.8	\$4,748.93
D0	9.92	46,914.4	\$4,751.13
D0	7.83	54,566.9	\$4,751.56
D0	7.11	46,591.0	\$4,768.25
D0	9.96	47,111.7	\$4,771.33
D0	9.98	47,255.8	\$4,784.44
D0	3.08	40,937.5	\$4,802.27
D0	10.04	47,495.6	\$4,809.43
D0	10.04	47,502.0	\$4,809.76
D0	10.06	47,614.4	\$4,821.46
D0	7.92	55,533.4	\$4,824.56
D0	10.07	47,645.8	\$4,825.08
D0	10.07	47,663.4	\$4,826.83
D0	10.10	47,811.0	\$4,840.14

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Rate Code	kW Savings	kWh Savings	Incentive
D0	10.10	47,820.5	\$4,840.51
D0	10.13	47,996.0	\$4,857.85
D0	10.15	48,059.9	\$4,865.76
D0	10.15	48,069.6	\$4,866.12
D0	10.15	48,085.0	\$4,867.90
D0	10.25	48,560.0	\$4,915.97
D0	8.12	56,622.6	\$4,930.12
D0	10.31	48,809.1	\$4,942.29
D0	8.54	55,916.1	\$4,976.07
D0	7.44	48,716.8	\$4,985.78
D0	7.88	47,688.8	\$5,025.53
D0	11.21	50,971.3	\$5,041.22
D0	10.70	49,242.4	\$5,048.28
D0	9.16	43,353.4	\$5,048.41
D0	7.53	49,333.8	\$5,048.90
D0	10.68	50,506.6	\$5,115.21
D0	5.90	35,617.5	\$5,127.09
D0	9.32	44,058.5	\$5,132.22
D0	8.85	57,989.9	\$5,160.71
D0	8.85	57,989.9	\$5,160.71
D0	10.77	50,983.4	\$5,161.31
D0	10.77	50,969.5	\$5,161.34
D0	10.84	51,359.1	\$5,198.51
D0	10.85	51,354.6	\$5,200.68
D0	10.64	22,071.6	\$5,234.90
D0	10.90	51,815.2	\$5,237.42
D0	10.98	51,968.9	\$5,262.27
D0	7.56	52,634.2	\$5,271.41
D0	10.98	52,196.8	\$5,276.08
D0	10.80	40,889.1	\$5,282.42
D0	11.03	52,170.2	\$5,283.43
D0	9.09	59,517.7	\$5,296.67
D0	11.11	52,598.3	\$5,325.45

Rate Code	kW Savings	kWh Savings	Incentive
D0	11.12	52,630.3	\$5,329.18
D0	11.27	53,617.1	\$5,416.81
D0	8.99	62,686.2	\$5,458.45
D0	9.90	47,134.3	\$5,474.47
D0	9.41	61,621.3	\$5,483.90
D0	9.95	47,096.4	\$5,484.79
D0	9.06	63,155.4	\$5,498.53
D0	9.08	63,264.8	\$5,508.44
D0	12.08	52,409.3	\$5,516.68
D0	11.49	54,612.3	\$5,520.79
D0	10.03	47,480.7	\$5,529.08
D0	8.00	55,741.8	\$5,582.04
D0	8.35	54,682.5	\$5,596.45
D0	9.26	64,588.1	\$5,622.79
D0	10.23	48,428.2	\$5,638.61
D0	11.83	55,940.5	\$5,666.85
D0	8.14	56,680.1	\$5,676.54
D0	10.32	48,868.6	\$5,688.20
D0	10.34	48,954.2	\$5,699.90
D0	10.44	49,378.6	\$5,750.86
D0	12.08	57,231.7	\$5,792.37
D0	9.97	65,328.9	\$5,813.79
D0	7.78	61,142.9	\$5,882.76
D0	13.72	53,379.1	\$5,916.16
D0	12.67	57,619.4	\$5,938.83
D0	13.48	61,286.9	\$6,061.02
D0	8.80	61,316.5	\$6,139.78
D0	10.20	71,170.3	\$6,194.49
D0	14.45	56,199.7	\$6,228.86
D0	10.37	72,284.2	\$6,293.16
D0	11.54	54,691.3	\$6,365.13
D0	12.71	55,127.5	\$6,394.87
D0	11.90	67,105.4	\$6,446.00

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Rate Code	kW Savings	kWh Savings	Incentive
D0	11.90	67,105.4	\$6,446.00
D0	11.90	67,105.4	\$6,446.00
D0	11.90	67,105.4	\$6,446.00
D0	4.95	43,867.4	\$6,473.86
D0	9.31	64,932.4	\$6,499.48
D0	10.45	76,223.6	\$6,534.35
D0	13.66	64,696.5	\$6,549.88
D0	14.03	64,992.5	\$6,643.16
D0	11.03	76,851.9	\$6,691.85
D0	10.77	38,000.3	\$6,787.19
D0	11.36	79,115.6	\$6,890.03
D0	11.43	79,619.2	\$6,933.57
D0	12.77	60,481.2	\$7,040.77
D0	14.72	69,741.8	\$7,059.65
D0	14.84	70,264.0	\$7,112.80
D0	12.23	80,445.9	\$7,147.61
D0	9.07	35,583.0	\$7,152.88
D0	15.16	71,764.2	\$7,265.87
D0	15.44	73,138.5	\$7,403.52
D0	15.83	72,334.7	\$7,438.60
D0	20.12	91,474.6	\$7,596.58
D0	16.91	76,877.5	\$7,602.88
D0	16.28	74,000.6	\$7,627.30
D0	13.28	86,984.9	\$7,741.08
D0	11.80	77,305.5	\$7,911.63
D0	16.79	79,940.1	\$8,074.33
D0	17.39	79,083.3	\$8,151.12
D0	13.49	93,826.1	\$8,175.62
D0	15.15	71,725.8	\$8,350.37
D0	15.16	71,797.7	\$8,358.11
D0	15.17	72,015.2	\$8,374.94
D0	15.45	73,180.9	\$8,519.21
D0	10.72	57,789.7	\$8,657.08

Rate Code	kW Savings	kWh Savings	Incentive
D0	19.15	87,090.8	\$8,976.46
D0	19.27	86,855.6	\$8,986.14
D0	15.65	47,913.0	\$9,169.42
D0	13.96	110,091.3	\$9,202.81
D0	20.10	90,934.5	\$9,392.50
D0	13.58	94,885.9	\$9,492.51
D0	18.14	43,794.9	\$9,511.78
D0	18.16	43,981.5	\$9,536.35
D0	16.77	109,863.5	\$9,777.11
D0	4.99	90,024.9	\$10,031.67
D0	15.49	101,491.8	\$10,386.91
D0	18.54	90,490.6	\$10,398.15
D0	22.30	101,408.0	\$10,452.14
D0	19.44	88,368.9	\$10,474.44
D0	15.15	105,629.9	\$10,575.35
D0	15.80	103,500.2	\$10,592.59
D0	23.73	107,884.9	\$10,669.48
D0	16.43	129,150.0	\$10,805.14
D0	18.68	57,681.3	\$10,991.01
D0	9.91	85,861.7	\$11,086.53
D0	19.20	125,783.4	\$11,193.76
D0	25.12	114,193.8	\$11,294.86
D0	18.09	142,585.3	\$11,919.09
D0	26.10	205,233.7	\$12,030.23
D0	23.80	124,405.7	\$12,320.94
D0	18.89	123,735.9	\$12,663.41
D0	22.41	146,813.0	\$13,065.38
D0	28.51	224,788.6	\$13,165.34
D0	20.11	158,557.8	\$13,254.30
D0	24.24	68,999.0	\$13,707.04
D0	23.73	155,433.2	\$13,832.50
D0	7.90	98,825.5	\$13,849.69
D0	30.90	139,931.9	\$13,861.94

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Rate Code	kW Savings	kWh Savings	Incentive
D0	31.81	143,401.1	\$14,836.42
D0	30.60	119,034.6	\$15,172.21
D0	14.46	119,631.1	\$15,639.90
D0	29.83	155,966.5	\$15,752.90
D0	24.60	193,409.0	\$16,181.29
D0	17.58	77,213.5	\$17,007.96
D0	37.06	168,496.1	\$17,366.82
D0	30.45	199,442.8	\$17,749.04
D0	38.00	172,775.8	\$17,807.92
D0	39.01	177,385.9	\$18,283.16
D0	41.18	187,149.2	\$18,511.63
D0	40.79	185,451.0	\$19,114.44
D0	26.15	54,434.3	\$19,494.14
D0	33.88	221,941.9	\$19,751.34
D0	16.69	163,461.6	\$20,463.26
D0	33.61	112,347.2	\$20,592.93
D0	19.97	118,435.2	\$22,560.04
D0	48.88	222,238.0	\$22,906.07
D0	38.68	215,471.8	\$23,443.54
D0	42.11	125,645.0	\$24,363.43
D0	37.93	291,331.1	\$24,557.38
D0	53.40	242,798.8	\$25,025.25
D0	35.41	134,070.5	\$27,385.11
D0	41.96	330,840.0	\$27,655.82
D0	62.71	285,029.8	\$28,193.18
D0	54.42	236,197.7	\$28,592.01
D0	49.82	326,343.9	\$29,042.37
D0	125.81	231,342.6	\$29,614.16
D0	45.38	297,299.2	\$30,426.26
D0	66.67	301,045.2	\$31,124.47
D0	38.36	218,034.0	\$32,043.48
D0	57.53	376,889.8	\$33,540.70
D0	58.18	219,049.3	\$37,980.76

Rate Code	kW Savings	kWh Savings	Incentive
D0	31.08	243,057.0	\$38,114.83
D0	169.44	311,582.0	\$39,885.68
D0	37.11	314,123.3	\$40,812.44
D0	95.47	433,597.9	\$42,900.62
D0	99.10	446,791.1	\$46,225.02
D0	128.59	584,125.9	\$61,449.86
D0	136.58	592,800.9	\$62,398.30
D0	134.15	609,801.2	\$62,859.28
D0	134.85	612,154.2	\$63,139.71
D0	116.88	309,559.8	\$75,454.54
D0	65.91	600,046.7	\$76,491.09
D0	183.34	842,553.6	\$86,429.74
D0	214.57	975,600.2	\$100,554.62
D0	218.26	990,633.4	\$102,183.75
D0	231.30	1,051,647.6	\$108,393.20
D0	120.74	766,849.2	\$108,517.23
D0	114.74	767,952.0	\$126,185.24
D0	273.92	1,238,386.1	\$127,964.78
D0	106.85	1,692,489.6	\$211,241.95
D1	3.03	19,548.8	\$2,010.55
D1	9.48	44,900.9	\$5,227.17
D1	29.10	228,785.1	\$21,703.67
D4	2.03	15,972.2	\$1,362.16
D4	2.41	18,984.9	\$1,546.26
D4	62.70	494,341.4	\$40,856.74
D6	0.81	3,701.9	\$421.07
D6	1.81	4,370.6	\$948.78
D6	1.96	5,280.5	\$1,080.62
D6	2.91	19,047.9	\$1,695.15
D6	7.49	34,915.1	\$4,176.55
D6	11.47	29,280.6	\$7,115.18
DC	0.00	6.8	\$0.48
DC	0.10	428.6	\$31.23

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Rate Code	kW Savings	kWh Savings	Incentive
DC	0.19	902.6	\$74.35
DC	0.16	1,032.9	\$91.93
DC	0.19	317.8	\$100.08
DC	1.11	4,062.5	\$473.79
DC	2.02	9,346.6	\$1,098.65
DC	1.65	10,813.3	\$1,106.66
DC	2.36	15,428.6	\$1,373.06
DC	2.59	16,940.5	\$1,507.60
DC	3.98	26,087.7	\$2,093.50
DC	5.64	30,487.5	\$5,245.37
DC	25.13	129,847.6	\$23,328.66
DC	46.64	129,990.9	\$26,111.18
DC	63.08	408,798.8	\$36,522.54
DC	87.74	303,816.0	\$62,937.18
DJ	0.04	263.1	\$23.40
DJ	0.07	295.9	\$31.42
DJ	0.19	928.9	\$64.59
DJ	0.31	1,397.8	\$148.43
DJ	0.42	726.5	\$193.78
DJ	0.65	2,930.1	\$211.64
DJ	0.60	1,552.4	\$324.72
DJ	1.62	3,792.8	\$839.20
DJ	1.81	4,038.4	\$918.05
DJ	2.64	4,911.3	\$1,246.47
DJ	1.83	7,874.2	\$1,288.95
DJ	2.06	13,466.6	\$1,378.18
DJ	2.26	12,746.2	\$1,380.06
DJ	4.77	6,944.6	\$2,066.67
DJ	5.24	23,818.7	\$2,823.23
DJ	5.24	34,343.4	\$3,056.34
DJ	4.25	19,108.4	\$3,070.30
DJ	5.87	16,583.7	\$3,307.03
DJ	8.98	29,626.6	\$5,465.74

Rate Code	kW Savings	kWh Savings	Incentive
DJ	12.76	42,656.1	\$7,819.15
DJ	16.43	37,971.5	\$8,453.02
DJ	15.89	59,567.3	\$10,347.72
DJ	17.40	55,929.4	\$10,448.96
DJ	22.06	45,648.1	\$10,844.92
DJ	16.51	67,854.8	\$11,318.88
DJ	28.02	52,361.5	\$12,181.57
DK	3.56	15,041.5	\$1,823.18
DQ	0.04	263.1	\$23.40
DQ	0.17	764.8	\$75.07
DQ	0.25	280.8	\$100.10
DQ	0.28	1,552.3	\$146.13
DQ	0.51	2,361.4	\$169.47
DQ	0.41	1,883.4	\$196.42
DQ	0.71	3,296.1	\$236.07
DQ	1.43	6,379.6	\$677.59
DQ	1.34	8,772.5	\$780.71
DQ	1.97	2,508.6	\$819.13
DQ	1.58	4,566.5	\$898.70
DQ	1.58	4,566.5	\$898.70
DQ	1.37	8,975.1	\$918.51
DQ	1.79	5,266.8	\$1,027.06
DQ	2.09	13,657.7	\$1,215.47
DQ	3.23	7,276.8	\$1,645.61
DQ	3.66	16,951.2	\$1,732.75
DQ	3.97	17,888.2	\$1,850.70
DQ	4.37	16,457.6	\$1,854.24
DQ	4.22	19,021.6	\$2,007.79
DQ	3.47	22,753.4	\$2,024.88
DQ	3.17	20,758.4	\$2,124.46
DQ	2.30	19,039.1	\$2,489.58
DQ	4.35	28,503.6	\$2,536.62
DQ	4.57	13,184.7	\$2,601.53

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Rate Code	kW Savings	kWh Savings	Incentive
DQ	6.29	28,603.2	\$2,948.13
DQ	3.51	21,939.0	\$3,121.37
DQ	7.23	21,706.6	\$4,195.66
DQ	8.29	46,762.6	\$4,251.05
BQ	6.93	26,102.5	\$5,344.20
DQ	11.96	53,445.3	\$5,551.72
DQ	11.90	67,105.4	\$6,446.00
DQ	11.73	37,047.0	\$8,244.64
DQ	23.94	47,067.6	\$11,532.91
DQ	30.28	89,383.6	\$17,425.05
DQ	41.52	107,032.0	\$22,419.02
DQ	35.79	125,963.6	\$28,053.84
DR	-0.01	-47.1	(\$4.74)
DR	0.92	6,139.2	\$623.58
DR	6.65	58,830.2	\$3,779.23
E0	-2.35	-10,610.0	(\$1,051.46)
E0	-0.40	-1,871.6	(\$199.05)
E0	0.08	290.2	\$34.03
E0	0.09	584.7	\$36.45
E0	0.22	1,461.7	\$91.13
E0	0.45	2,923.3	\$182.26
E0	0.26	2,017.4	\$194.08
E0	0.53	3,466.5	\$216.14
E0	0.38	2,474.4	\$220.19
E0	0.77	4,182.1	\$280.66
E0	0.83	3,602.5	\$363.28
E0	1.32	8,631.4	\$538.18
E0	1.23	5,578.0	\$551.53
E0	1.05	8,306.3	\$676.54
E0	1.70	11,107.2	\$692.56
E0	1.53	7,079.5	\$694.68
E0	2.22	10,444.2	\$742.23
E0	1.84	12,052.3	\$751.46

Rate Code	kW Savings	kWh Savings	Incentive
E0	11.26	54,178.9	\$5,447.22
E0	13.89	62,805.4	\$6,225.75
E0	5.52	50,637.0	\$6,441.30
E0	11.46	75,053.7	\$6,679.27
E0	11.53	75,556.4	\$6,724.02
E0	12.67	83,029.9	\$7,389.08
E0	11.34	49,438.8	\$8,045.74
E0	17.61	79,395.3	\$8,214.27
E0	15.03	44,353.6	\$8,649.44
E0	14.88	97,454.6	\$8,672.77
E0	14.17	103,625.1	\$8,877.23
E0	13.95	109,997.7	\$9,195.03
E0	15.28	120,126.6	\$10,050.27
E0	15.27	100,018.5	\$10,236.15
E0	1.70	77,929.6	\$10,408.66
E0	9.35	68,188.9	\$10,912.77
E0	13.48	75,254.4	\$11,130.03
E0	19.05	42,718.0	\$11,130.40
E0	25.03	113,774.3	\$11,727.54
E0	17.90	141,131.4	\$11,797.57
E0	18.07	142,432.3	\$11,906.36
E0	19.93	155,901.9	\$13,065.21
E0	28.12	127,857.5	\$13,178.28
E0	0.19	108,193.1	\$13,608.25
E0	6.37	91,140.4	\$13,872.01
E0	25.41	166,447.0	\$14,812.62
E0	31.72	144,293.4	\$14,869.57
E0	12.40	85,041.0	\$15,447.40
E0	25.56	178,595.9	\$15,537.22
E0	30.37	127,598.5	\$15,678.09
E0	28.27	185,158.7	\$16,477.91
E0	5.36	119,235.2	\$16,993.05
E0	3.46	132,499.4	\$17,919.24

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
E0	1.94	8,820.0	\$872.32
E0	1.40	11,002.1	\$919.70
E0	1.60	12,611.0	\$1,027.13
E0	1.87	12,239.8	\$1,089.27
E0	16.01	123,580.4	\$1,218.77
E0	3.46	14,695.3	\$1,259.53
E0	3.12	11,265.6	\$1,321.43
E0	4.44	20,580.2	\$1,473.91
E0	2.61	17,087.5	\$1,520.68
E0	2.48	19,572.9	\$1,594.14
E0	3.06	20,073.6	\$1,786.42
E0	2.96	23,319.4	\$1,949.36
E0	3.45	22,628.6	\$2,013.79
E0	3.70	6,568.1	\$2,026.20
E0	3.49	25,280.1	\$2,173.10
E0	3.24	25,512.5	\$2,175.82
E0	4.17	27,293.2	\$2,428.92
E0	3.89	30,605.7	\$2,560.53
E0	4.81	31,536.5	\$2,806.57
E0	7.11	46,545.4	\$2,902.17
E0	5.25	34,369.3	\$3,058.65
E0	5.73	37,541.4	\$3,340.94
E0	7.74	33,600.8	\$3,389.11
E0	5.63	40,052.7	\$3,464.07
E0	1.27	32,688.0	\$3,482.77
E0	6.02	39,423.6	\$3,508.45
E0	2.24	32,073.8	\$3,709.48
E0	9.69	34,988.7	\$4,022.72
E0	9.22	41,957.0	\$4,148.59
E0	8.10	14,036.7	\$4,280.35
E0	7.56	49,532.2	\$4,408.05
E0	7.02	45,957.0	\$4,703.35
E0	8.10	53,050.9	\$4,721.20

Rate Code	kW Savings	kWh Savings	Incentive
E0	8.23	53,896.9	\$4,796.25
E0	13.00	124,338.0	\$18,489.56
E0	32.54	117,772.5	\$20,790.83
E0	3.96	156,901.5	\$21,162.40
E0	28.50	224,129.6	\$21,564.30
E0	47.70	216,897.6	\$22,355.61
E0	69.69	302,472.6	\$31,838.48
E0	30.20	244,269.5	\$32,132.77
E0	10.62	233,908.1	\$33,381.07
E0	32.43	166,421.5	\$33,397.17
E0	9.36	264,408.3	\$36,707.38
E0	0.18	319,166.6	\$39,996.92
E0	12.20	282,906.4	\$40,123.26
E0	12.20	282,906.4	\$40,123.26
E0	4.33	311,223.6	\$40,613.14
E0	87.70	395,617.7	\$40,920.14
E0	97.95	425,121.2	\$44,748.81
E0	99.91	454,254.1	\$46,820.70
E0	1.09	379,349.0	\$47,880.63
E0	13.93	379,562.0	\$52,886.18
E0	80.26	631,113.1	\$60,721.47
E0	12.70	454,073.0	\$61,730.30
E0	7.96	427,393.4	\$65,034.96
E0	28.91	447,866.4	\$67,239.68
E0	29.75	451,486.8	\$68,019.04
E0	151.75	994,101.3	\$88,468.32
E0	78.68	498,189.6	\$92,835.06
E0	33.48	731,109.6	\$104,445.68
E0	186.50	1,221,721.8	\$108,725.00
E0	49.28	774,061.6	\$115,947.16
E0	138.60	1,048,527.0	\$162,239.46
EC	1.20	7,876.2	\$700.95
EC	4.34	24,470.5	\$1,614.25

2017 Basic CSOP By Rate Code

Rate Code	kW Savings	kWh Savings	Incentive
EC	17.07	34,197.0	\$8,283.95
EC	16.68	93,944.4	\$8,645.03
EJ	2.35	11,621.0	\$1,277.40
EJ	3.81	24,944.7	\$2,219.93
EJ	4.46	11,212.3	\$2,379.76
EJ	4.32	19,926.0	\$3,169.77
EJ	6.58	32,559.0	\$3,719.35
EJ	12.70	44,086.9	\$7,937.56
EJ	12.66	49,537.7	\$8,442.38
EJ	15.16	61,393.1	\$10,306.48
EJ	20.56	51,197.7	\$10,930.89
EJ	21.40	38,984.4	\$11,826.26
EJ	32.52	96,026.8	\$21,217.22
EQ	1.02	2,902.6	\$663.53
EQ	1.45	2,832.4	\$696.94
EQ	1.87	4,764.4	\$1,003.04
EQ	1.86	12,197.6	\$1,085.51
EQ	7.62	58,660.6	\$4,940.53
EQ	13.86	35,576.4	\$7,467.65
EQ	10.98	79,349.4	\$14,185.19
EQ	70.27	179,733.1	\$43,477.19
EQ	19.59	327,287.9	\$47,253.56
K0	-0.01	-91.8	(\$8.04)
K0	4.80	31,448.5	\$2,798.71
K0	4.82	31,568.4	\$2,809.38

Rate Code	kW Savings	kWh Savings	Incentive
K0	6.74	31,220.3	3,669.83
K0	8.24	38,152.2	4,305.48
K0	8.47	55,474.4	4,936.87
K0	11.18	50,815.1	5,026.10
K0	13.91	95,731.4	5,866.17
K0	9.93	78,248.5	6,541.03
K0	10.01	65,568.2	6,710.05
K0	14.67	65,397.4	6,799.58
K0	12.37	95,909.2	8,060.16
K0	15.06	98,637.3	8,778.06
K0	16.75	131,766.7	12,350.83
K0	29.86	234,814.8	19,645.43
K0	28.44	52,683.3	20,261.17
K0	35.50	232,565.9	20,696.81
K0	36.22	239,970.9	21,268.94
K0	53.39	247,322.8	29,072.86
K0	71.75	325,239.2	33,568.92
K0	9.56	400,234.2	53,774.82
K0	74.33	576,942.7	55,739.72
K0	42.19	692,357.0	71,292.20
K0	39.69	762,381.0	105,337.09
K1	9.56	42,522.2	5,036.67
N0	159.97	1,214,265.7	116,915.12
	11,381.49	67,247,365.3	7,846,175.57