

Exhibit 3:

Operating Revenue



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3.1 Overview

This Exhibit provides the details of ENWIN Utilities Ltd.'s ("ENWIN's") operating revenues for 2009 Board Approved, 2009 to 2017 Actual, 2018 Forecast, 2019 Bridge Year and the 2020 Test Year. This Exhibit also provides a detailed variance analysis by rate classification for the operating revenue components. Distribution revenue excludes revenue from commodity sales.

ENWIN is proposing a total Service Revenue Requirement of \$58,246,170 for the 2020 Test Year. This amount includes a Base Revenue Requirement of \$54,238,255 plus Revenue Offsets of \$4,007,915 as discussed in Section 3.4 below.

Other Revenue includes, but is not limited to, late payment charges, miscellaneous service revenues and retail service revenues. A summary of these operating revenues with an analysis of material variances is presented in Section 3.4.

3.2 Load and Revenue Forecasts

3.2.1 Overview of Revenue Forecast

Distribution revenues are derived through a combination of fixed monthly charges and volumetric consumption or demand charges. ENWIN's 2020 forecasted load and customer counts applied to its currently approved rates produces Distribution Revenue of \$50,936,794 exclusive of all rate riders.

3.2.2 Proposed Load Forecast

According to the most recently published Filing Requirements for Electricity Distribution Rate Applications, dated July 12, 2018, multivariate regression is an approved modelling approach for forecasting load. Traditionally, kWh and kW data is collected by month for 10 historic years for use in the regression analysis. Accordingly, ENWIN has utilized kWh and kW data, by month, for its entire service territory from January 2008 to December 2017 in order to ensure that all billed consumption and demand is collected and applied to its appropriate consumed month.

ENWIN engaged Elenchus Research Associates Inc. ("Elenchus") to complete a 2020 weather normalized and CDM adjusted Load Forecast. A report detailing the approach and load forecast results is included as Attachment 3-A to this exhibit. Table 3-1 summarizes the historic and forecast kWh loads by class before the CDM adjustment, from 2013 actuals to the 2020 weather normal forecast.



Normal Forecast

kWh	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
Residential	617,011,741	598,157,531	593,984,431	619,568,738	583,858,255	584,339,743	580,540,749	576,741,755	574,911,717
GS < 50	217,023,476	212,401,262	207,733,155	208,239,182	199,190,043	205,390,646	203,954,049	202,249,993	200,909,468
GS > 50	940,634,724	966,794,318	941,653,982	954,879,861	935,689,536	957,476,205	968,184,332	977,025,233	983,364,681
Intermediate	45,666,584	47,519,842	44,363,941	44,045,564	44,136,954	43,340,513	42,892,419	41,910,227	40,874,806
Large User	295,185,914	304,014,292	301,194,469	318,162,193	299,472,217	312,728,259	321,546,905	321,110,393	317,827,139
Large Use 3TS	265,541,554	266,219,490	241,052,439	264,027,087	252,589,950	251,190,065	251,190,065	251,190,065	251,190,065
Large Use FA	48,126,675	47,308,909	47,202,926	44,370,767	42,875,821	43,030,414	41,981,366	40,932,318	39,883,269
Street Light	17,283,102	17,360,921	17,162,408	14,655,212	6,962,744	6,962,744	6,411,263	6,415,192	6,419,124
Sentinel Light	887,748	924,204	873,074	851,685	795,951	795,951	775,200	754,991	735,308
USL	3,254,726	2,436,825	2,410,786	2,415,557	2,368,616	2,368,616	2,239,601	2,230,745	2,221,924
Total	2,450,616,245	2,463,137,594	2,397,631,611	2,471,215,846	2,367,940,087	2,407,623,157	2,419,715,948	2,420,560,912	2,418,337,501

TABLE 3-1: kWh Forecast by Class.

The following table summarizes 2015-2020 CDM Adjusted Load Forecast kWh.

CDM Adjusted

kWh	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
Residential	574,911,717	18,994,804	555,916,913
GS < 50	200,909,468	5,451,981	195,457,487
GS > 50	983,364,681	98,739,021	884,625,659
Intermediate	40,874,806	14,630,520	26,244,286
Large User	317,827,139	35,963,599	281,863,540
Large Use 3TS	251,190,065	13,634,353	237,555,713
Large Use FA	39,883,269	47,618	39,835,651
Street Light	6,419,124	0	6,419,124
Sentinel Light	735,308	0	735,308
USL	2,221,924	0	2,221,924
Total	2,418,337,501	187,461,895	2,230,875,607

TABLE 3-2: CDM Adjusted kWh Forecast.

Table 3-3 summarizes the historic and forecast kW by class before the CDM adjustment, from 2013 actuals to the 2020 weather normal forecast.

Normal Forecast

kW	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
GS > 50	2,556,408	2,368,008	2,413,021	2,436,984	2,393,116	2,470,361	2,472,028	2,468,708	2,459,030
Intermediate	129,021	131,072	128,586	130,216	133,092	128,470	129,232	128,339	127,189
Large User	557,389	557,415	559,321	576,548	548,064	566,370	572,212	561,825	546,712
Large Use 3TS	535,816	524,555	487,725	515,987	495,653	499,655	488,592	477,529	466,465
Large Use FA	85,551	86,734	82,845	74,822	70,874	73,947	71,033	68,175	65,372
Street Light	49,480	49,412	49,145	43,203	19,819	19,992	18,409	18,420	18,431
Sentinel Light	2,439	2,542	2,448	2,365	2,230	2,206	2,148	2,092	2,038
Total	3,916,104	3,719,738	3,723,089	3,780,125	3,662,848	3,761,001	3,753,655	3,725,088	3,685,237

TABLE 3-3: kW Forecast by Class.

The following table summarizes 2015-2020 CDM Adjusted Load Forecast kW. Details for this calculation can be found in the Attachment 3-D of this exhibit.



CDM Adjusted

kW	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
GS > 50	2,459,030	22,079	2,436,951
Intermediate	127,189	1,792	125,396
Large User	546,712	4,373	542,339
Large Use 3TS	466,465	2,841	463,625
Large Use FA	65,372	4	65,368
Street Light	18,431	0	18,431
Sentinel Light	2,038	0	2,038
Total	3,685,237	31,089	3,654,148

TABLE 3-4: CDM Adjusted kW Forecast.

The following table summarizes the historic and forecast customer/connections for 2013-2020:

Customers /Connections

kW	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast
Residential	77,452	77,950	78,321	78,812	79,325	79,646	79,969	80,293
GS < 50	6,946	7,014	7,055	7,080	7,109	7,116	7,124	7,131
GS > 50	1,179	1,209	1,229	1,245	1,251	1,258	1,264	1,271
Intermediate	3	3	3	3	3	3	3	3
Large User	6	6	6	6	6	6	6	6
Large Use 3TS	2	2	2	2	2	2	2	2
Large Use FA	1	1	1	1	1	1	1	1
Street Light	23,386	23,460	23,495	23,518	24,144	24,158	24,173	24,188
Sentinel Light	641	631	616	602	554	540	526	512
USL	790	783	780	781	769	727	724	721
Total	110,405	111,059	111,507	112,049	113,163	113,457	113,792	114,128

TABLE 3-5: Customer/Connection Forecast for 2013-2020.

A summary of the test year forecast is also included in Tab 10 of RRWF submitted as part of this application.

3.2.3 Customer Specific Load Forecast Adjustments

Large Use – 3TS Customer Class

Prior to any modeling, ENWIN identified that a significant facility closure had occurred within its service territory and notified Elenchus to ensure that historic load for this customer would be factored out of the analysis.

Due to the loss of this Large Use – 3TS (automotive sector) customer, usage prior to 2012 has been adjusted to exclude the lost customer. Excluding that customer, and after adding back persisting CDM, the Large Use 3TS energy consumption has varied in a range of 254GWh - 287GWh from 2008-2017 with no clear trend. The forecast was calculated as an average of the 2008-2017 consumption, having adjusted for CDM.

Street Lighting Class

The owner of the street lighting assets with ENWIN's service territory, the Corporation of the



City of Windsor, completed a mass conversion project from conventional HPS to LED streetlights in the first quarter of 2017.

The average Street Light consumption per customer forecast is based on actual consumption from April 2017 to March 2018, the first full year after LED conversion.

3.2.4 CDM Adjustment to Load Forecast

The current Chapter 2 OEB Minimum Filing requirements, consistent with the Board's CDM Guideline EB-2012-0003, expects the distributor to integrate an adjustment into its load forecast that takes into account the six-year (2015-2020) targets for kWh and kW reductions. ENWIN has included details pertaining to its 2015-2020 CDM Plans with this Application, appended at Attachment 3-D. The information has also been provided in live Excel format as the Excel file is very large and the attachment may be difficult to read. ENWIN has also appended Board Appendix 2-I, Load Forecast CDM Adjustment Work Form at Attachment 3-C of this Exhibit.

The filing requirements note that the distributors license condition targets and the LRAMVA balances are based on the IESO targets, which are annualized. It is recognized that the CDM programs in a year are not in effect for the full year, although persistence of previous year's programs will be. Therefore, the actual impact on the load forecast for the first year of the program should not be the full annualized amount. For this reason, the amount that will be used for the LRAMVA will be related to, but not necessarily equal to, the CDM adjustment for the load forecast.

The proposed forecast of the CDM kWh load forecast adjustment and final proposed load forecast are based on a half-year of savings from 2017, a full year of savings from 2018 and 2019, and a half year of savings from 2020.

The proposed forecast of the CDM kW load forecast adjustment and final proposed load forecast are based on a half-year of savings from 2017, a full year of savings from 2018 and 2019, and a half year of savings from 2020.

3.3 Accuracy of Load Forecast and Variance Analysis

3.3.1 Overview

Provided in the following sections is ENWIN's analysis of the accuracy of the historical load forecast covering 2009 Board Approved, historical actual results from 2009 to 2017, forecast results for 2018, the 2019 Bridge Year and the 2020 Test Year. The analysis has been completed on the following basis:

- Distribution Revenue 2009 Board Approved, 2009 to 2017 Actual;
- Billing Determinants 2009 Board Approved, 2009 to 2017 Actual;



- Explanation of Changes 2009 Board Approved, 2009 to 2017 Actual;
- Distribution Revenue 2017 Actual, 2018 and 2019 Forecast and 2020 Proposed;
- Billing Determinants 2017 Actual, 2018 and 2019 Forecast and 2020 Proposed;
- Explanation of Changes 2017 Actual, 2018 and 2019 Forecast and 2020 Proposed; and,
- Distribution Revenue calculated on the basis of existing rates and proposed rates.

ENWIN has completed Appendix 2-IB Customer, Connections, Load Forecast and Revenues Data and Analysis as presented in Attachment 3-B. All historical data has been reported as presented in the OEB RRR filings. All historical amounts reflect actual weather conditions in the year.

3.3.2 Distribution Revenue Variance Analysis [2009 Board Approved; 2009 to 2017 Actual]

The following variance analysis has been provided based on ENWIN's materiality threshold per the materiality calculation being noted in Exhibit 1, Section 1.9.12 of this Application. ENWIN is using \$250,000 as its basis for variance analysis of Distribution Revenue.

Table 3-6 below shows the variances by rate class for Distribution Revenue. Variances outside of the materiality threshold are discussed in detail below. Total distribution revenue amounts tie to those filed in RRR 2.1.7 annually and to the audited financial statements, unless otherwise noted. ENWIN accrues for unbilled revenue at the end of each period, which is later reversed and replaced with the actual results.



3.3.2.1 Distribution Revenue Variance Analysis

Rate Class	2009 Board Approved	2009 Actual	2010 Actual	2011 Actual	2012 Actual
Residential	\$ 22,100,611	\$ 21,658,067	\$ 22,978,356	\$ 22,810,643	\$ 23,603,838
General Service<50 kW	\$ 5,973,319	\$ 5,636,594	\$ 5,713,015	\$ 5,640,824	\$ 5,812,389
General Service>=50 kW	\$ 12,922,360	\$ 12,345,161	\$ 12,485,303	\$ 12,349,230	\$ 12,554,788
Intermediate	\$ 170,280	\$ 163,484	\$ 247,534	\$ 247,433	\$ 250,898
Large User - Regular	\$ 1,366,970	\$ 1,309,537	\$ 1,457,154	\$ 1,369,032	\$ 1,410,535
Large Use 3TS	\$ 2,271,372	\$ 2,368,526	\$ 2,440,380	\$ 2,170,792	\$ 2,052,276
Large Use Ford Annex	\$ 1,252,550	\$ 1,201,026	\$ 1,214,927	\$ 1,214,488	\$ 1,242,813
Street Lighting Connections	\$ 1,058,574	\$ 888,292	\$ 1,232,674	\$ 1,481,876	\$ 1,595,243
Sentinel Lighting Connections	\$ 75,207	\$ 70,747	\$ 90,084	\$ 37,444	\$ 93,603
Unmetered Scattered Load	\$ 108,790	\$ 150,546	\$ 93,408	\$ 99,644	\$ 99,262
Total	\$ 47,300,033	\$ 45,791,981	\$ 47,952,836	\$ 47,421,407	\$ 48,715,645
Rate Class	2009 Board Approved	2009 Actual Vs. 2009 Board Approved	2010 Actual Vs. 2009 Actual	2011 Actual Vs. 2010 Actual	2012 Actual Vs. 2011 Actual
Residential		\$ (442,544)	\$ 1,320,289	\$ (167,713)	\$ 793,195
General Service<50 kW		\$ (336,725)	\$ 76,421	\$ (72,191)	\$ 171,565
General Service>=50 kW		\$ (577,199)	\$ 140,142	\$ (136,073)	\$ 205,558
Intermediate		\$ (6,796)	\$ 84,050	\$ (101)	\$ 3,465
Large User - Regular		\$ (57,433)	\$ 147,617	\$ (88,122)	\$ 41,503
Large Use 3TS		\$ 97,154	\$ 71,854	\$ (269,588)	\$ (118,516)
Large Use Ford Annex		\$ (51,524)	\$ 13,901	\$ (439)	\$ 28,325
Street Lighting Connections		\$ (170,282)	\$ 344,382	\$ 249,202	\$ 113,367
Sentinel Lighting Connections		\$ (4,460)	\$ 19,337	\$ (52,640)	\$ 56,159
Unmetered Scattered Load		\$ 41,756	\$ (57,138)	\$ 6,236	\$ (382)
Total		\$ (1,508,052)	\$ 2,160,855	\$ (531,429)	\$ 1,294,238

TABLE 3-6: Variances by rate class for distribution revenue.



Rate Class	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual
Residential	\$ 23,260,221	\$ 27,085,197	\$ 23,014,728	\$ 24,593,913	\$ 24,582,093
General Service<50 kW	\$ 5,857,705	\$ 6,117,550	\$ 6,144,116	\$ 6,348,450	\$ 5,988,260
General Service>=50 kW	\$ 12,810,959	\$ 12,895,040	\$ 12,646,341	\$ 14,010,839	\$ 13,199,152
Intermediate	\$ 256,856	\$ 262,934	\$ 256,006	\$ 261,152	\$ 269,072
Large User - Regular	\$ 1,483,661	\$ 1,485,772	\$ 1,476,759	\$ 1,670,278	\$ 1,537,053
Large Use 3TS	\$ 1,875,216	\$ 1,808,390	\$ 1,732,812	\$ 2,123,464	\$ 1,892,119
Large Use Ford Annex	\$ 1,263,774	\$ 1,274,629	\$ 1,264,540	\$ 1,265,222	\$ 1,282,792
Street Lighting Connections	\$ 1,613,758	\$ 1,642,055	\$ 1,638,299	\$ 1,651,187	\$ 1,715,223
Sentinel Lighting Connections	\$ 89,742	\$ 94,039	\$ 88,806	\$ 86,677	\$ 79,497
Unmetered Scattered Load	\$ 97,942	\$ 100,218	\$ 106,871	\$ 90,363	\$ 97,896
Total	\$ 48,609,834	\$ 52,765,822	\$ 48,369,278	\$ 52,101,544	\$ 50,643,158

Rate Class	2013 Actual Vs. 2012 Actual	2014 Actual Vs. 2013 Actual	2015 Actual Vs. 2014 Actual	2016 Actual Vs. 2015 Actual	2017 Actual Vs. 2016 Actual
Residential	\$ (343,617)	\$ 3,824,976	\$ (4,070,469)	\$ 1,579,185	\$ (11,821)
General Service<50 kW	\$ 45,316	\$ 259,845	\$ 26,566	\$ 204,334	\$ (360,190)
General Service>=50 kW	\$ 256,171	\$ 84,081	\$ (248,699)	\$ 1,364,499	\$ (811,687)
Intermediate	\$ 5,958	\$ 6,077	\$ (6,928)	\$ 5,146	\$ 7,920
Large User - Regular	\$ 73,126	\$ 2,111	\$ (9,013)	\$ 193,519	\$ (133,225)
Large Use 3TS	\$ (177,061)	\$ (66,826)	\$ (75,577)	\$ 390,651	\$ (231,344)
Large Use Ford Annex	\$ 20,961	\$ 10,855	\$ (10,089)	\$ 682	\$ 17,570
Street Lighting Connections	\$ 18,515	\$ 28,297	\$ (3,755)	\$ 12,887	\$ 64,036
Sentinel Lighting Connections	\$ (3,861)	\$ 4,297	\$ (5,234)	\$ (2,129)	\$ (7,180)
Unmetered Scattered Load	\$ (1,320)	\$ 2,276	\$ 6,653	\$ (16,508)	\$ 7,533
Total	\$ (105,811)	\$ 4,155,988	\$ (4,396,545)	\$ 3,732,267	\$ (1,458,386)

TABLE 3-6 (continued): Variances by rate class for distribution revenue.

2009 Actual versus 2009 Board Approved

Rate Class	2009 Board Approved	2009 Actual	Difference (\$)	Difference %
Residential	\$ 22,100,611	\$ 21,658,067	\$ (442,544)	-2.00%
General Service<50 kW	\$ 5,973,319	\$ 5,636,594	\$ (336,725)	-5.64%
General Service>=50 kW	\$ 12,922,360	\$ 12,345,161	\$ (577,199)	-4.47%
Intermediate	\$ 170,280	\$ 163,484	\$ (6,796)	-3.99%
Large User - Regular	\$ 1,366,970	\$ 1,309,537	\$ (57,433)	-4.20%
Large Use 3TS	\$ 2,271,372	\$ 2,368,526	\$ 97,154	4.28%
Large Use Ford Annex	\$ 1,252,550	\$ 1,201,026	\$ (51,524)	-4.11%
Street Lighting Connections	\$ 1,058,574	\$ 888,292	\$ (170,282)	-16.09%
Sentinel Lighting Connections	\$ 75,207	\$ 70,747	\$ (4,460)	-5.93%
Unmetered Scattered Load	\$ 108,790	\$ 150,546	\$ 41,756	38.38%
Total	\$ 47,300,033	\$ 45,791,981	\$ (1,508,052)	-3.19%



Rate Class	Customers/Connections		Variance		Billing Determinants		Variance
	2009 Board Approved	2009 Actual			2009 Board Approved	2009 Actual	
Residential	76317	76,419	102	kWh	641,214,701	604,635,109	-36,579,592
General Service<50 kW	7013	6,970	-43	kWh	238,998,501	220,940,436	-18,058,065
General Service>=50 kW	1189	1,176	-14	kW	2,431,356	2,411,400	-19,956
Intermediate	3	3	0	kW	141,807	130,057	-11,750
Large User - Regular	6	6	0	kW	539,536	550,085	10,549
Large Use 3TS	3	3	0	kW	637,577	739,223	101,646
Large Use Ford Annex	1	1	0	kW	133,262	95,070	-38,192
Street Lighting Connections	23413	23,421	8	Connections	23413	23,421	8
Sentinel Lighting Connections	748	669	-80	Connections	748	669	-80
Unmetered Scattered Load	893	763	-131	Connections	893	763	-131

TABLE 3-7: 2009 Actual versus 2009 Board Approved.

The decrease in 2009 actual Residential revenue was due to consumption, since Residential kWh were 5.7% lower than in the 2009 Board Approved forecast. Similarly, the decreased revenue in the GS<50kW class is also due to a 7.56% reduction in kWh. The decrease in the GS>50kW class revenue was due to a combination of a 1% reduction in kW, a reduction in the number of customers and the transformer allowance.

2010 Actual versus 2009 Actual

Rate Class	2009 Actual	2010 Actual	Difference (\$)	Difference %
Residential	\$ 21,658,067	\$ 22,978,356	\$ 1,320,289	6.10%
General Service<50 kW	\$ 5,636,594	\$ 5,713,015	\$ 76,421	1.36%
General Service>=50 kW	\$ 12,345,161	\$ 12,485,303	\$ 140,142	1.14%
Intermediate	\$ 163,484	\$ 247,534	\$ 84,050	51.41%
Large User - Regular	\$ 1,309,537	\$ 1,457,154	\$ 147,617	11.27%
Large Use 3TS	\$ 2,368,526	\$ 2,440,380	\$ 71,854	3.03%
Large Use Ford Annex	\$ 1,201,026	\$ 1,214,927	\$ 13,901	1.16%
Street Lighting Connections	\$ 888,292	\$ 1,232,674	\$ 344,382	38.77%
Sentinel Lighting Connections	\$ 70,747	\$ 90,084	\$ 19,337	27.33%
Unmetered Scattered Load	\$ 150,546	\$ 93,408	\$ (57,138)	-37.95%
Total	\$45,791,981	\$47,952,836	\$ 2,160,855	4.72%

Rate Class	Customers/Connections		Variance		Billing Determinants		Variance
	2009 Actual	2010 Actual			2009 Actual	2010 Actual	
Residential	76,419	76,605	186	kWh	604,635,109	647,490,325	42,855,216
General Service<50 kW	6,970	6,948	-22	kWh	220,940,436	223,232,846	2,292,409
General Service>=50 kW	1,176	1,189	13	kW	2,411,400	2,412,321	920
Intermediate	3	3	0	kW	130,057	130,266	208
Large User - Regular	6	6	0	kW	550,085	579,240	29,154
Large Use 3TS	3	3	0	kW	739,223	698,063	-41,160
Large Use Ford Annex	1	1	0	kW	95,070	99,529	4,459
Street Lighting Connections	23,421	23,436	15	Connections	23,421	23,436	15
Sentinel Lighting Connections	669	667	-2	Connections	669	667	-2
Unmetered Scattered Load	763	770	7	Connections	763	770	7

TABLE 3-8: 2010 Actual versus 2009 Actual.



The increase in 2010 Residential revenue was due to consumption, since Residential kWh were 7.09% higher than in the 2009 actual results. Street Lighting fixed revenue was 39% higher than in 2009. This was due to the Board's Decision (EB-2008-0227) for ENWIN's 2009 cost of service rate application, which prescribed a phase-in period to adjust its revenue-to-cost ratios. Street Lighting was part of this phase-in. Fixed rates increased from \$3.79 per connection in 2009 to \$4.70 per connection in 2010.

2011 Actual versus 2010 Actual

Rate Class	2010 Actual	2011 Actual	Difference (\$)	Difference %
Residential	\$ 22,978,356	\$ 22,810,643	\$ (167,713)	-0.73%
General Service<50 kW	\$ 5,713,015	\$ 5,640,824	\$ (72,191)	-1.26%
General Service>=50 kW	\$ 12,485,303	\$ 12,349,230	\$ (136,073)	-1.09%
Intermediate	\$ 247,534	\$ 247,433	\$ (101)	-0.04%
Large User - Regular	\$ 1,457,154	\$ 1,369,032	\$ (88,122)	-6.05%
Large Use 3TS	\$ 2,440,380	\$ 2,170,792	\$ (269,588)	-11.05%
Large Use Ford Annex	\$ 1,214,927	\$ 1,214,488	\$ (439)	-0.04%
Street Lighting Connections	\$ 1,232,674	\$ 1,481,876	\$ 249,202	20.22%
Sentinel Lighting Connections	\$ 90,084	\$ 37,444	\$ (52,640)	-58.43%
Unmetered Scattered Load	\$ 93,408	\$ 99,644	\$ 6,236	6.68%
Total	\$ 47,952,836	\$ 47,421,407	\$ (531,429)	-1.11%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2010 Actual	2011 Actual			2010 Actual	2011 Actual	
Residential	76,605	76,747	142	kWh	647,490,325	636,991,611	-10,498,714
General Service<50 kW	6,948	6,929	-19	kWh	223,232,846	218,915,072	-4,317,774
General Service>=50 kW	1,189	1,195	7	kW	2,412,321	2,435,757	23,436
Intermediate	3	3	0	kW	130,266	130,752	486
Large User - Regular	6	6	0	kW	579,240	598,591	19,351
Large Use 3TS	3	3	0	kW	698,063	574,892	-123,171
Large Use Ford Annex	1	1	0	kW	99,529	77,155	-22,375
Street Lighting Connections	23,436	23,411	-25	Connections	23,436	23,411	-25
Sentinel Lighting Connections	667	662	-5	Connections	667	662	-5
Unmetered Scattered Load	770	793	23	Connections	770	793	23

TABLE 3-9: 2011 Actual versus 2010 Actual.

The decrease in 2011 distribution revenue was due to reductions in the Large Use 3TS, Residential and GS>50kW rate classes, partially offset by an increase in Street Lighting revenue. The reduction in 2011 Large Use 3TS kW revenue was due to consumption, since Large Use 3TS kW usage was 17.64% lower than in 2010. This significant reduction is attributed to the closure of the General Motors of Canada Transmission facility. Street Lighting fixed rates increased from \$4.70 per connection in 2010 to \$5.62 per connection in 2011.



2012 Actual versus 2011 Actual

Rate Class	2011 Actual	2012 Actual	Difference (\$)	Difference %
Residential	\$ 22,810,643	\$ 23,603,838	\$ 793,195	3.48%
General Service<50 kW	\$ 5,640,824	\$ 5,812,389	\$ 171,565	3.04%
General Service>=50 kW	\$ 12,349,230	\$ 12,554,788	\$ 205,558	1.66%
Intermediate	\$ 247,433	\$ 250,898	\$ 3,465	1.40%
Large User - Regular	\$ 1,369,032	\$ 1,410,535	\$ 41,503	3.03%
Large Use 3TS	\$ 2,170,792	\$ 2,052,276	\$ (118,516)	-5.46%
Large Use Ford Annex	\$ 1,214,488	\$ 1,242,813	\$ 28,325	2.33%
Street Lighting Connections	\$ 1,481,876	\$ 1,595,243	\$ 113,367	7.65%
Sentinel Lighting Connections	\$ 37,444	\$ 93,603	\$ 56,159	149.98%
Unmetered Scattered Load	\$ 99,644	\$ 99,262	\$ (382)	-0.38%
Total	\$ 47,421,407	\$ 48,715,645	\$ 1,294,238	2.73%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2011 Actual	2012 Actual			2011 Actual	2012 Actual	
Residential	76,747	77,099	352	kWh	636,991,611	631,309,636	-5,681,975
General Service<50 kW	6,929	6,922	-7	kWh	218,915,072	216,236,229	-2,678,843
General Service>=50 kW	1,195	1,179	-16	kW	2,435,757	2,427,538	-8,219
Intermediate	3	3	0	kW	130,752	127,751	-3,001
Large User - Regular	6	6	0	kW	598,591	566,691	-31,900
Large Use 3TS	3	3	-1	kW	574,892	559,021	-15,871
Large Use Ford Annex	1	1	0	kW	77,155	81,689	4,535
Street Lighting Connections	23,411	23,358	-53	Connections	23,411	23,358	-53
Sentinel Lighting Connections	662	661	-2	Connections	662	661	-2
Unmetered Scattered Load	793	794	1	Connections	793	794	1

TABLE 3-10: 2012 Actual versus 2011 Actual.

The increased distribution revenue for 2012 is mainly due to the Residential class. This increase in revenue was due to rate riders for the disposition of Deferred PILs Variance Account 1562 recovery of \$530K and the Lost Revenue Adjustment Mechanism (LRAM) recovery of \$505K. These recoveries more than offset the reduction in consumption for this class.

2013 Actual versus 2012 Actual

Rate Class	2012 Actual	2013 Actual	Difference (\$)	Difference %
Residential	\$ 23,603,838	\$ 23,260,221	\$ (343,617)	-1.46%
General Service<50 kW	\$ 5,812,389	\$ 5,857,705	\$ 45,316	0.78%
General Service>=50 kW	\$ 12,554,788	\$ 12,810,959	\$ 256,171	2.04%
Intermediate	\$ 250,898	\$ 256,856	\$ 5,958	2.37%
Large User - Regular	\$ 1,410,535	\$ 1,483,661	\$ 73,126	5.18%
Large Use 3TS	\$ 2,052,276	\$ 1,875,216	\$ (177,061)	-8.63%
Large Use Ford Annex	\$ 1,242,813	\$ 1,263,774	\$ 20,961	1.69%
Street Lighting Connections	\$ 1,595,243	\$ 1,613,758	\$ 18,515	1.16%
Sentinel Lighting Connections	\$ 93,603	\$ 89,742	\$ (3,861)	-4.13%
Unmetered Scattered Load	\$ 99,262	\$ 97,942	\$ (1,320)	-1.33%
Total	\$ 48,715,645	\$ 48,609,834	\$ (105,811)	-0.22%



Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2012 Actual	2013 Actual			2012 Actual	2013 Actual	
Residential	77,099	77,452	353	kWh	631,309,636	617,011,741	-14,297,895
General Service<50 kW	6,922	6,946	24	kWh	216,236,229	217,023,476	787,248
General Service>=50 kW	1,179	1,179	0	kW	2,427,538	2,556,408	128,870
Intermediate	3	3	0	kW	127,751	129,021	1,271
Large User - Regular	6	6	0	kW	566,691	557,389	-9,302
Large Use 3TS	3	2	-1	kW	559,021	535,816	-23,205
Large Use Ford Annex	1	1	0	kW	81,689	85,551	3,862
Street Lighting Connections	23,358	23,386	28	Connections	23,358	23,386	28
Sentinel Lighting Connections	661	641	-19	Connections	661	641	-19
Unmetered Scattered Load	794	790	-5	Connections	794	790	-5

TABLE 3-11: 2013 Actual versus 2012 Actual.

The reduction in distribution revenue in 2013 resulted from the Residential class due to a reduction in consumption as Residential kWh were 2.26% lower than 2012. Contributing to this were reductions in the PILs and LRAM recoveries. The decrease in Residential revenue was partly offset by an increase in the 2013 GS>50kW class revenue due to consumption since the GS>50 kW usage was 5.31% higher than 2012.

2014 Actual versus 2013 Actual

Rate Class	2013 Actual	2014 Actual	Difference (\$)	Difference %
Residential	\$ 23,260,221	\$ 27,085,197	\$ 3,824,976	16.44%
General Service<50 kW	\$ 5,857,705	\$ 6,117,550	\$ 259,845	4.44%
General Service>=50 kW	\$ 12,810,959	\$ 12,895,040	\$ 84,081	0.66%
Intermediate	\$ 256,856	\$ 262,934	\$ 6,077	2.37%
Large User - Regular	\$ 1,483,661	\$ 1,485,772	\$ 2,111	0.14%
Large Use 3TS	\$ 1,875,216	\$ 1,808,390	\$ (66,826)	-3.56%
Large Use Ford Annex	\$ 1,263,774	\$ 1,274,629	\$ 10,855	0.86%
Street Lighting Connections	\$ 1,613,758	\$ 1,642,055	\$ 28,297	1.75%
Sentinel Lighting Connections	\$ 89,742	\$ 94,039	\$ 4,297	4.79%
Unmetered Scattered Load	\$ 97,942	\$ 100,218	\$ 2,276	2.32%
Total	\$ 48,609,834	\$ 52,765,822	\$ 4,155,988	8.55%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2013 Actual	2014 Actual			2013 Actual	2014 Actual	
Residential	77,452	77,950	497	kWh	617,011,741	598,157,531	-18,854,209
General Service<50 kW	6,946	7,014	69	kWh	217,023,476	212,401,262	-4,622,215
General Service>=50 kW	1,179	1,209	30	kW	2,556,408	2,368,008	-188,400
Intermediate	3	3	0	kW	129,021	131,072	2,050
Large User - Regular	6	6	0	kW	557,389	557,415	26
Large Use 3TS	2	2	0	kW	535,816	524,555	-11,261
Large Use Ford Annex	1	1	0	kW	85,551	86,734	1,183
Street Lighting Connections	23,386	23,460	74	Connections	23,386	23,460	74
Sentinel Lighting Connections	641	631	-10	Connections	641	631	-10
Unmetered Scattered Load	790	783	-7	Connections	790	783	-7

TABLE 3-12: 2014 Actual versus 2013 Actual.



The significant increase in distribution revenue in 2014 was due to significant increases in both the Residential class and GS<50kW class revenues, despite decreases in consumption. In 2014, Smart Meter Incremental Revenue Requirement (SMIRR) rate riders created material variances in these two classes.

2015 Actual versus 2014 Actual

Rate Class	2014 Actual	2015 Actual	Difference (\$)	Difference %
Residential	\$ 27,085,197	\$ 23,014,728	\$ (4,070,469)	-15.03%
General Service<50 kW	\$ 6,117,550	\$ 6,144,116	\$ 26,566	0.43%
General Service>=50 kW	\$ 12,895,040	\$ 12,646,341	\$ (248,699)	-1.93%
Intermediate	\$ 262,934	\$ 256,006	\$ (6,928)	-2.63%
Large User - Regular	\$ 1,485,772	\$ 1,476,759	\$ (9,013)	-0.61%
Large Use 3TS	\$ 1,808,390	\$ 1,732,812	\$ (75,577)	-4.18%
Large Use Ford Annex	\$ 1,274,629	\$ 1,264,540	\$ (10,089)	-0.79%
Street Lighting Connections	\$ 1,642,055	\$ 1,638,299	\$ (3,755)	-0.23%
Sentinel Lighting Connections	\$ 94,039	\$ 88,806	\$ (5,234)	-5.57%
Unmetered Scattered Load	\$ 100,218	\$ 106,871	\$ 6,653	6.64%
Total	\$ 52,765,822	\$ 48,369,278	\$ (4,396,545)	-8.33%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2014 Actual	2015 Actual			2014 Actual	2015 Actual	
Residential	77,950	78,321	371	kWh	598,157,531	593,984,431	-4,173,100
General Service<50 kW	7,014	7,055	41	kWh	212,401,262	207,733,155	-4,668,107
General Service>=50 kW	1,209	1,229	20	kW	2,368,008	2,413,021	45,013
Intermediate	3	3	0	kW	131,072	128,586	-2,486
Large User - Regular	6	6	0	kW	557,415	559,321	1,905
Large Use 3TS	2	2	0	kW	524,555	487,725	-36,830
Large Use Ford Annex	1	1	0	kW	86,734	82,845	-3,890
Street Lighting Connections	23,460	23,495	36	Connections	23,460	23,495	36
Sentinel Lighting Connections	631	616	-16	Connections	631	616	-16
Unmetered Scattered Load	783	780	-3	Connections	783	780	-3

TABLE 3-13: 2015 Actual versus 2014 Actual.

The significant reduction in distribution revenue in 2015 was attributable to the ending of SMI Revenue Disposition, which reduced revenue by \$3.896M compared to 2014. The revenue reduction for the GS>50kW class resulted from the rate rider for the disposition of Deferred PILs Variance Account 1562, which expired during 2015.



2016 Actual versus 2015 Actual

Rate Class	2015 Actual	2016 Actual	Difference (\$)	Difference %
Residential	\$ 23,014,728	\$ 24,593,913	\$ 1,579,185	6.86%
General Service<50 kW	\$ 6,144,116	\$ 6,348,450	\$ 204,334	3.33%
General Service>=50 kW	\$ 12,646,341	\$ 14,010,839	\$ 1,364,499	10.79%
Intermediate	\$ 256,006	\$ 261,152	\$ 5,146	2.01%
Large User - Regular	\$ 1,476,759	\$ 1,670,278	\$ 193,519	13.10%
Large Use 3TS	\$ 1,732,812	\$ 2,123,464	\$ 390,651	22.54%
Large Use Ford Annex	\$ 1,264,540	\$ 1,265,222	\$ 682	0.05%
Street Lighting Connections	\$ 1,638,299	\$ 1,651,187	\$ 12,887	0.79%
Sentinel Lighting Connections	\$ 88,806	\$ 86,677	\$ (2,129)	-2.40%
Unmetered Scattered Load	\$ 106,871	\$ 90,363	\$ (16,508)	-15.45%
Total	\$ 48,369,278	\$ 52,101,544	\$ 3,732,267	7.72%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2015 Actual	2016 Actual			2015 Actual	2016 Actual	
Residential	78,321	78,812	492	kWh	593,984,431	619,568,738	25,584,306
General Service<50 kW	7,055	7,080	25	kWh	207,733,155	208,239,182	506,027
General Service>=50 kW	1,229	1,245	16	kW	2,413,021	2,436,984	23,964
Intermediate	3	3	0	kW	128,586	130,216	1,631
Large User - Regular	6	6	0	kW	559,321	576,548	17,227
Large Use 3TS	2	2	0	kW	487,725	515,987	28,262
Large Use Ford Annex	1	1	0	kW	82,845	74,822	-8,023
Street Lighting Connections	23,495	23,518	22	Connections	23,495	23,518	22
Sentinel Lighting Connections	616	602	-14	Connections	616	602	-14
Unmetered Scattered Load	780	781	1	Connections	780	781	1

TABLE 3-14: 2016 Actual versus 2015 Actual.

Several factors contributed to the large increase in distribution revenue in 2016. During 2016, the OEB issued a new policy to change residential rates to a fully fixed rate structure, transitioning over a four-year period beginning in 2016. Residential kWh were 4.31% higher than 2015, the number of customers continued to increase and the LRAM recovery of \$765K all contributed to increased revenue in this class in 2016. Revenues for the GS>50kW and Large Use 3TS classes also significantly increased in 2016 due to LRAM recoveries of \$1.165M and \$322K respectively.



2017 Actual versus 2016 Actual

Rate Class	2016 Actual	2017 Actual	Difference (\$)	Difference %
Residential	\$ 24,593,913	\$ 24,582,093	\$ (11,821)	-0.05%
General Service<50 kW	\$ 6,348,450	\$ 5,988,260	\$ (360,190)	-5.67%
General Service>=50 kW	\$ 14,010,839	\$ 13,199,152	\$ (811,687)	-5.79%
Intermediate	\$ 261,152	\$ 269,072	\$ 7,920	3.03%
Large User - Regular	\$ 1,670,278	\$ 1,537,053	\$ (133,225)	-7.98%
Large Use 3TS	\$ 2,123,464	\$ 1,892,119	\$ (231,344)	-10.89%
Large Use Ford Annex	\$ 1,265,222	\$ 1,282,792	\$ 17,570	1.39%
Street Lighting Connections	\$ 1,651,187	\$ 1,715,223	\$ 64,036	3.88%
Sentinel Lighting Connections	\$ 86,677	\$ 79,497	\$ (7,180)	-8.28%
Unmetered Scattered Load	\$ 90,363	\$ 97,896	\$ 7,533	8.34%
Total	\$ 52,101,544	\$ 50,643,158	\$ (1,458,386)	-2.80%

Rate Class	Customers/Connections		Variance	Billing Determinants			Variance
	2016 Actual	2017 Actual			2016 Actual	2017 Actual	
Residential	78,812	79,325	513	kWh	619,568,738	583,858,255	-35,710,483
General Service<50 kW	7,080	7,109	29	kWh	208,239,182	199,190,043	-9,049,140
General Service>=50 kW	1,245	1,251	6	kW	2,436,984	2,393,116	-43,868
Intermediate	3	3	0	kW	130,216	133,092	2,875
Large User - Regular	6	6	0	kW	576,548	548,064	-28,484
Large Use 3TS	2	2	0	kW	515,987	495,653	-20,333
Large Use Ford Annex	1	1	0	kW	74,822	70,874	-3,948
Street Lighting Connections	23,518	24,144	626	Connections	23,518	24,144	626
Sentinel Lighting Connections	602	554	-48	Connections	602	554	-48
Unmetered Scattered Load	781	769	-12	Connections	781	769	-12

TABLE 3-15: 2017 Actual versus 2016 Actual.

In 2017 distribution revenue was significantly lower than 2016. This was due to reductions in revenue for the GS<50 kWh and GS>50kW classes, which resulted from lower LRAM recoveries of \$223K and \$639K respectively.



3.3.3 Distribution Revenue Variance Analysis [2017 Actual, 2018 and 2019 Forecast, 2020 Proposed]

Table 3-16 below shows the 2017 Actual, 2018 and 2019 Forecasted, and 2020 proposed revenues and comparisons.

	Actuals (from RRR 2.1.7)			
Rate Class	2017 Actuals	2018 Forecast	2019 Forecast	2020 Proposed
Residential	\$ 24,582,093	\$ 25,444,472	\$ 25,597,086	\$ 27,177,843
General Service<50 kW	\$ 5,988,260	\$ 6,281,334	\$ 6,159,866	\$ 6,029,702
General Service>=50 kW	\$ 13,199,152	\$ 13,639,168	\$ 14,185,877	\$ 14,500,039
Intermediate*	\$ 269,072	\$ 258,086	\$ 260,937	\$ -
Large User - Regular	\$ 1,537,053	\$ 1,632,290	\$ 1,705,770	\$ 1,794,634
Large Use 3TS	\$ 1,892,119	\$ 2,019,783	\$ 1,984,932	\$ 3,032,976
Large Use Ford Annex*	\$ 1,282,792	\$ 1,298,416	\$ 1,300,634	\$ -
Street Lighting Connections	\$ 1,715,223	\$ 1,789,238	\$ 1,757,376	\$ 1,520,167
Sentinel Lighting Connections	\$ 79,497	\$ 82,079	\$ 80,206	\$ 82,105
Unmetered Scattered Load	\$ 97,896	\$ 97,713	\$ 94,539	\$ 100,788
Total	\$ 50,643,158	\$ 52,542,579	\$ 53,127,223	\$ 54,238,254
Rate Class	2017	2018 Forecast Vs. 2017 Actual	2019 Forecast Vs. 2018 Forecast	2020 Proposed Vs. 2019 Forecast
Residential		\$ 862,379	\$ 152,614	\$ 1,580,757
General Service<50 kW		\$ 293,074	\$ (121,468)	\$ (130,164)
General Service>=50 kW		\$ 440,016	\$ 546,709	\$ 314,162
Intermediate*		\$ (10,986)	\$ 2,851	\$ (260,937)
Large User - Regular		\$ 95,237	\$ 73,480	\$ 88,864
Large Use 3TS		\$ 127,664	\$ (34,851)	\$ 1,048,044
Large Use Ford Annex*		\$ 15,624	\$ 2,218	\$ (1,300,634)
Street Lighting Connections		\$ 74,015	\$ (31,862)	\$ (237,209)
Sentinel Lighting Connections		\$ 2,582	\$ (1,872)	\$ 1,899
Unmetered Scattered Load		\$ (183)	\$ (3,174)	\$ 6,249
Total		\$ 1,899,422	\$ 584,644	\$ 1,111,031

TABLE 3-16: 2017 to 2020 Revenues and Comparisons.

*For 2020, Intermediate class is combined with GS>=50kW; Large Use Ford Annex Class combined with Large Use 3TS class.



Table 3-17 below shows the 2017 Actual, 2018 and 2019 Forecasted, and 2020 proposed billing determinants and comparison.

Rate Class	Customers/Connections				Billing Determinants				
	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast		2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast
Residential^	79,325	79,646	79,969	80,293	kWh	583,858,255	570,743,706	562,297,710	555,916,913
General Service<50 kW	7,109	7,116	7,124	7,131	kWh	199,190,043	201,833,099	198,127,913	195,457,487
General Service>=50 kW	1,251	1,258	1,264	1,271	kW	2,393,116	2,469,073	2,455,904	2,562,347
Intermediate*	3	3	3	3	kW	133,092	128,328	126,556	0
Large User - Regular	6	6	6	6	kW	548,064	571,904	561,013	542,339
Large Use 3TS	2	2	2	2	kW	495,653	487,469	475,523	528,993
Large Use Ford Annex*	1	1	1	1	kW	70,874	71,032	68,172	0
Street Lighting Connections	24,144	24,158	24,173	24,188	Connections	24,144	24,158	24,173	24,188
Sentinel Lighting Connections	554	540	526	512	Connections	554	540	526	512
Unmetered Scattered Load	769	727	724	721	Connections	769	727	724	721
Rate Class	Customers/Connections				Billing Determinants				
	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast		2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast
Residential		322	323	324	kWh		-13,114,549	-8,445,996	-6,380,796
General Service<50 kW		7	7	7	kWh		2,643,057	-3,705,186	-2,670,426
General Service>=50 kW		6	6	7	kW		75,957	-13,169	106,443
Intermediate*		0	0	0	kW		-4,764	-1,772	-126,556
Large User - Regular		0	0	0	kW		23,840	-10,891	-18,674
Large Use 3TS		0	0	0	kW		-8,184	-11,946	53,470
Large Use Ford Annex*		0	0	0	kW		159	-2,860	-68,172
Street Lighting Connections		15	15	15	Connections		15	15	15
Sentinel Lighting Connections		-14	-14	-14	Connections		-14	-14	-14
Unmetered Scattered Load		-42	-3	-3	Connections		-42	-3	-3

TABLE 3-17: 2017 to 2020 Billing Determinants and Comparisons.

*For 2020, Intermediate class is combined with GS>=50kW; Large Use Ford Annex Class combined with Large Use 3TS class.

^For 2020, Residential class billing determinant is customer.

Distribution revenue is forecasted to increase in 2018. The main drivers of this increase are rate increases in the Residential and GS>50kW classes. 2019 is the first year of fully fixed rates for the Residential rate class. The increased distribution revenue in 2019 is attributable to rate increases for the GS>50kW class. In 2020, the increased distribution revenue is resulting from the Residential class. For Residential customers, the proposed Monthly Service Charge rate of \$28.21, compared to \$26.57 in 2019, represents an increase of 6.17%. This is discussed in more detail in Exhibit 6 and the Revenue Requirement work Form.



3.3.4 2020 Distribution Revenue at Existing Rates

Table 3-18 below summarized distribution revenue at existing rates.

Class	Annual kWh	Annual kW	Annual Customers	Annual Connection	Fixed Dist. Revenue	Variable Dist. Revenue	Transformer Allowance	Dist. Revenue excl. Transformer Allowance
Residential	555,916,913	-	963,516	-	\$ 25,523,539	-		\$ 25,523,539
General Service<50 kW	195,457,487	-	85,572	-	\$ 2,319,001	\$ 3,420,506		\$ 5,739,507
General Service>=50 kW	910,869,945	2,562,347	15,288	-	\$ 1,645,142	\$ 12,732,302	\$ (483,037)	\$ 13,894,407
Large User - Regular	281,863,540	542,339	72	-	\$ 586,937	\$ 1,274,550	\$ (325,403)	\$ 1,536,084
Large Use 3TS	277,391,364	528,993	36	-	\$ 1,039,238	\$ 1,551,484	\$ (278,175)	\$ 2,312,546
Street Lighting Connections	6,419,124	18,431	-	290,256	\$ 1,758,951	-		\$ 1,758,951
Sentinel Lighting Connections	735,308	2,038	-	6,144	\$ 77,107	-		\$ 77,107
Unmetered Scattered Load	2,221,924	-	-	8,652	\$ 94,653	-		\$ 94,653
Totals	2,230,875,606	3,654,148	1,064,484	305,052	\$ 33,044,568	\$ 18,978,842	\$ (1,086,615)	\$ 50,936,794

TABLE 3-18: DISTRIBUTION REVENUE AT EXISTING RATES

3.3.5 2020 Distribution Revenue at Proposed Rates

Table 3-19 below summarized distribution revenue at proposed rates.

Class	Annual kWh	Annual kW	Annual Customers	Annual Connection	Fixed Dist. Revenue	Variable Dist. Revenue	Transformer Allowance	Dist. Revenue excl. Transformer Allowance
Residential	555,916,913	-	963,516	-	\$ 27,180,786	-		\$ 27,180,786
General Service<50 kW	195,457,487	-	85,572	-	\$ 2,436,235	\$ 3,596,418		\$ 6,032,653
General Service>=50 kW	910,869,945	2,562,347	15,288	-	\$ 1,716,842	\$ 13,266,295	\$ (483,037)	\$ 14,500,101
Large User - Regular	281,863,540	542,339	72	-	\$ 685,729	\$ 1,434,323	\$ (325,403)	\$ 1,794,649
Large Use 3TS	277,391,364	528,993	36	-	\$ 1,363,019	\$ 1,948,123	\$ (278,175)	\$ 3,032,967
Street Lighting Connections	6,419,124	18,431	-	290,256	\$ 1,520,941	-		\$ 1,520,941
Sentinel Lighting Connections	735,308	2,038	-	6,144	\$ 82,084	-		\$ 82,084
Unmetered Scattered Load	2,221,924	-	-	8,652	\$ 100,796	-		\$ 100,796
Totals	2,230,875,606	3,654,148	1,064,484	305,052	\$ 35,086,434	\$ 20,245,159	\$ (1,086,615)	\$ 54,244,977

TABLE 3-19: DISTRIBUTION REVENUE AT PROPOSED RATES



3.4 Other Revenue

3.4.1 Overview

Other Revenue is any revenue that is distribution in nature but that is sourced from means other than distribution rates. ENWIN currently earns and forecasts to continue to earn Other Revenue. Other Revenue is comprised of four main components: Specific Service Charges, Late Payment Charges, Other Operating Revenues, and Other Income or Deductions. Revenues and costs associated with deferral and variance accounts have been excluded.

Table 3-20 below provides a high level summary and comparison of these four categories for the Historic Years 2009 through 2018, the 2019 Bridge Year and 2020 Test Year.

USoA #	USoA Description	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual
		2009	2010	2011	2012	2013	2014
	Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
	Specific Service Charges	\$ 695,962	\$ 811,478	\$ 827,231	\$ 774,719	\$ 823,526	\$ 730,944
	Late Payment Charges	\$ 1,409,969	\$ 1,196,729	\$ 1,007,583	\$ 1,132,028	\$ 1,117,255	\$ 552,868
	Other Operating Revenues	\$ 453,111	\$ 474,823	\$ 493,271	\$ 543,437	\$ 577,093	\$ 650,603
	Other income or Deductions	\$ 1,681,863	\$ 2,250,076	\$ (1,499,409)	\$ (2,378,177)	\$ (2,757,285)	\$ (904,522)
	Total	\$ 4,240,904	\$ 4,733,106	\$ 828,676	\$ 72,007	\$ 239,412	\$ 1,029,893

USoA #	USoA Description	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	Bridge Year ¹	Test Year
		2015	2016	2017	2018	2019	2020
	Reporting Basis	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
	Specific Service Charges	\$ 775,921	\$ 1,152,888	\$ 903,511	\$ 575,027	\$ 598,434	\$ 675,108
	Late Payment Charges	\$ 397,182	\$ 404,245	\$ 365,696	\$ 391,988	\$ 384,000	\$ 384,000
	Other Operating Revenues	\$ 793,495	\$ 871,343	\$ 946,502	\$ 1,052,661	\$ 1,183,047	\$ 1,997,514
	Other income or Deductions	\$ (148,063)	\$ (674,499)	\$ (643,749)	\$ (721,859)	\$ (994,332)	\$ 1,768,724
	Total	\$ 1,818,535	\$ 1,753,977	\$ 1,571,960	\$ 1,297,817	\$ 1,171,150	\$ 4,825,347

TABLE 3-20: Other Revenue Summary.

More details of Other Revenue amounts earned and expected to be earned in the Bridge and Test Years can be found in OEB Appendix 2-H, included as Attachment 3-E to this Exhibit.

3.4.2 Other Revenue Variance Analysis

The following variance analysis has been completed consistent with ENWIN's materiality threshold calculated in Exhibit 1, Section 1.9 of this Application. For purposes of this variance analysis, ENWIN's materiality threshold is \$250,000.

Table 3-21 below shows the variances by major Other Revenue category.



USoA Description	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual
	2009	2010	2011	2012	2013	2014
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS
Specific Service Charges	\$ 695,962	\$ 811,478	\$ 827,231	\$ 774,719	\$ 823,526	\$ 730,944
Late Payment Charges	\$ 1,409,969	\$ 1,196,729	\$ 1,007,583	\$ 1,132,028	\$ 1,117,255	\$ 552,868
Other Operating Revenues	\$ 453,111	\$ 474,823	\$ 493,271	\$ 543,437	\$ 577,093	\$ 650,603
Other income or Deductions	\$ 1,681,863	\$ 2,250,076	\$ (1,499,409)	\$ (2,378,177)	\$ (2,757,285)	\$ (904,522)
Total	\$ 4,240,904	\$ 4,733,106	\$ 828,676	\$ 72,007	\$ (239,412)	\$ 1,029,893

USoA Description	2009 Act Vs. 2010 Act	2010 Act Vs. 2011 Act	2011 Act Vs. 2012 Act	2012 Act Vs. 2013 Act	2013 Act Vs. 2014 Act
Specific Service Charges	\$ 115,516	\$ 15,753	\$ (52,513)	\$ 48,807	\$ (92,582)
Late Payment Charges	\$ (213,240)	\$ (189,146)	\$ 124,445	\$ (14,773)	\$ (564,386)
Other Operating Revenues	\$ 21,712	\$ 18,448	\$ 50,166	\$ 33,656	\$ 73,510
Other income or Deductions	\$ 568,213	\$ (3,749,485)	\$ (878,768)	\$ (379,109)	\$ 1,852,763
Total	\$ 492,202	\$ (3,904,430)	\$ (756,669)	\$ (311,419)	\$ 1,269,305

USoA Description	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	Bridge Year*	Test Year
	2015	2016	2017	2018	2019	2020
Reporting Basis	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
Specific Service Charges	\$ 775,921	\$ 1,152,888	\$ 903,511	\$ 575,027	\$ 598,434	\$ 675,108
Late Payment Charges	\$ 397,182	\$ 404,245	\$ 365,696	\$ 391,988	\$ 384,000	\$ 384,000
Other Operating Revenues	\$ 793,495	\$ 871,343	\$ 946,502	\$ 1,052,661	\$ 1,183,047	\$ 1,997,514
Other income or Deductions	\$ (148,063)	\$ (674,499)	\$ (643,749)	\$ (721,859)	\$ (994,332)	\$ 1,768,724
Total	\$ 1,818,535	\$ 1,753,977	\$ 1,571,960	\$ 1,297,817	\$ 1,171,150	\$ 4,825,347

USoA Description	2014 Act Vs. 2015 Act	2015 Act Vs. 2016 Act	2016 Act Vs. 2017 Act	2017 Act Vs. 2018 Forecast	2018 Fcst Vs. 2019 Bridge	2019 Bridge Vs. 2020 Test
Specific Service Charges	\$ 44,978	\$ 376,967	\$ (249,377)	\$ (328,484)	\$ 23,407	\$ 76,674
Late Payment Charges	\$ (155,687)	\$ 7,063	\$ (38,549)	\$ 26,292	\$ (7,988)	\$ -
Other Operating Revenues	\$ 142,892	\$ 77,848	\$ 75,159	\$ 106,159	\$ 130,386	\$ 814,467
Other income or Deductions	\$ 756,459	\$ (526,436)	\$ 30,749	\$ (78,110)	\$ (272,472)	\$ 2,763,056
Total	\$ 788,642	\$ (64,558)	\$ (182,017)	\$ (274,143)	\$ (126,667)	\$ 3,654,197

TABLE 3-21: Other Revenue Variance Analysis.

2009 Actual vs. 2010 Actual

ENWIN experienced an overall increase in Other Revenue between 2009 and 2010 Actual results of \$492,202. This variance is attributable to the increase in Net Revenues from Non-Utility Operations. This is primarily due to increased charges to affiliates for depreciation resulting from the planned system software conversion to SAP.

2010 Actual vs. 2011 Actual

ENWIN experienced an overall decrease in Other Revenue between 2010 and 2011 Actual results of \$3,904,430. This variance is primarily attributable to the transition from reporting in CGAAP to reporting in MIFRS which resulted in an adjustment of \$3,382,035 recorded in Account 4310. This amount represents the financial differences relating to depreciation and capitalization policies arising upon conversion. For more details regarding the transition from CGAAP to MIFRS, please see OEB Appendix 2-EA.

2011 Actual vs. 2012 Actual

ENWIN experienced an overall decrease in Other Revenue between 2011 and 2012 Actual results of \$756,669. This variance is primarily attributable to the

transition from reporting in CGAAP to reporting in MIFRS which resulted in an additional \$1,007,471 recorded in Account 4310. This amount represents the financial differences relating to depreciation and capitalization policies arising upon conversion. For more details regarding the transition from CGAAP to MIFRS, please see OEB Appendix 2-EA. Contributing to this variance is a \$308,480 increase in loss on disposal of assets, specifically meters, and offsetting this variance is a \$434,998 increase in Net Revenues from Non-Utility Operations.

2012 Actual vs. 2013 Actual

ENWIN experienced an overall decrease in Other Revenue between 2012 and 2013 Actual results of \$311,419. This variance is mainly attributable to the transition from reporting in CGAAP to reporting in MIFRS which resulted in a \$1,791,998 reduction in the amount recorded in Account 4310. This amount represents the financial differences relating to depreciation and capitalization policies arising upon conversion. For more details regarding the transition from CGAAP to MIFRS, please see OEB Appendix 2-EA. Offsetting this variance is an additional expense of \$1,703,886 recorded to Account 4380 Expenses of Non-Utility Operations. This was due to undercharging an affiliate for their appropriate share of employee future benefit expenses.

2013 Actual vs. 2014 Actual

ENWIN experienced an overall increase in Other Revenue between 2013 and 2014 Actual results of \$1,269,305. This variance is mainly attributable to the elimination of the additional expense of \$1,703,886 recorded to Account 4380 Expenses of Non-Utility Operations, referred to in 2013. This is partially offset by a reduction in Collection Charges due to ENWIN's decision to stop delivering and charging for collection notices.

2014 Actual vs. 2015 Actual

ENWIN experienced an overall increase in Other Revenue between 2014 and 2015 Actual results of \$788,642. This favourable variance is attributable to ENWIN earning revenue for Cost Efficiency Incentive (CEI) by achieving CDM targets.

2017 Actual vs. 2018 Forecast

ENWIN is forecasting an overall decrease in Other Revenue between 2017 Actual and 2018 Forecast years of \$274,143. This variance is mainly attributable to a reduction in Specific Service Charges for Miscellaneous Revenue resulting from the SR&ED tax credits recorded in 2017 were higher than expected in 2018.



2019 Bridge vs. 2020 Test

ENWIN is forecasting an overall increase in Other Revenue between 2019 Bridge Actual and 2020 Test years of \$3,654,197. This variance is mainly attributable to the elimination of the Regulatory PP&E adjustment due to conversion to MIFRS. Additional increased revenues are forecasted due to the combination of OEB approved rate increase for pole attachments and a predicted increase in the number of pole attachments.

3.4.3 Specific Service Charges

ENWIN proposes the following Specific Service Charges (“SSCs”) as presented in Table 3-22 below. ENWIN recognizes that for the SSC for access to power poles, an inflation factor will be applied for 2020 (reference EB-2015-0304). For more details regarding the currently approved and the proposed Specific Service Charges, please see Exhibit 8.

Customer Administration

Arrears certificate	\$	15.00
Pulling post dated cheques	\$	15.00
Easement letter	\$	15.00
Account history	\$	15.00
Credit reference/credit check (plus credit agency costs)	\$	15.00
Returned cheque (plus bank charges)	\$	15.00
Account set up charge/change of occupancy charge (plus credit agency costs if applicable)	\$	30.00
Special meter reads	\$	30.00
Meter dispute charge plus Measurement Canada fees (if meter found correct)	\$	30.00
Dispute test - residential	\$	60.00
Dispute test - commercial self contained – MC	\$	105.00
Dispute test - commercial TT – MC	\$	180.00

Non-Payment of Account

Late payment - per month	%	1.50
Late payment - per annum	%	19.56
Collection of account charge - no disconnection	\$	30.00
Disconnect/reconnect at meter - during regular hours	\$	65.00
Disconnect/reconnect at meter - after regular hours	\$	185.00

Other

Service layout - residential	\$	110.00
Service layout - commercial	\$	160.00
Overtime locate	\$	60.00
Disposal of concrete poles	\$	95.00
Missed service appointment	\$	65.00
Service call - customer owned equipment	\$	30.00
Same day open trench	\$	170.00
Scheduled day open trench	\$	100.00
Specific charge for access to the power poles - \$/pole/year (with the exception of wireless attachments)	\$	43.63

TABLE 3-22: ENWIN Proposed Specific Service Charges.



New Specific Service Charges

Cellular Meter Read Charge

ENWIN is proposing to introduce a new specific service charge of \$7.50 for customers electing to cellular communication based interval meters installed. This is discussed in more detail in Exhibit 8.

3.4.4 Revenues from Affiliate Transactions/Shared Services/Corporate Cost Allocations

Revenues from Non-Utility Operations include billings to affiliated entities for direct and shared services cost allocation, including a return on non-regulated assets.

On November 6, 2012, ENWIN and the Windsor Utilities Commission (the "Commission") entered into a Water System Operating Agreement (WSOA) and an associated Employee Arrangement Agreement. The Commission is a local board of the City of Windsor responsible for water production, transmission and distribution. Pursuant to the terms of these agreements, the Commission transferred all employees to ENWIN. ENWIN is responsible for providing all personnel required to operate the water system and District Energy and charges the Commission directly for these costs.

ENWIN also provides billing, collecting, credit, financial, customer and other support services to the Commission.

In addition, ENWIN provides billing, credit, financial, customer and other support service on behalf of ENWIN Energy Ltd., in relation to sentinel lighting and street lighting maintenance.

ENWIN also provides waste water billing, credit, collecting, financial and general customer service on behalf of its Municipal Shareholder, The City of Windsor.

The amounts received from these services are recorded in Account 4375. The costs associated with these services include wages, benefits and administration expenses and are recorded in account 4380. ENWIN expects to continue providing these services.



ATTACHMENT 3 – A

Weather Normalized Distribution System Load Forecast:
2020 Cost of Service [prepared by Elenchus Research
Associates Inc.]



34 King Street East, Suite 600
Toronto, Ontario, M5C 2X8
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Weather Normalized Distribution System Load Forecast: 2020 Cost of Service

**Report prepared by
Andrew Blair
Elenchus Research Associates Inc.**

**Prepared for:
EnWin Utilities**

21 November 2018

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1 INTRODUCTION

This report outlines the results of, and methodology used to derive, the weather normal load forecast prepared for use in the Cost of Service application for 2020 rates for EnWin Utilities (“EnWin”).

The regression equations used to normalize and forecast EnWin’s weather sensitive load use monthly heating degree days and cooling degree days as measured at Environment Canada’s Windsor Riverside weather station to take into account temperature sensitivity. This location is central to the communities in EnWin’s service territory, and has strong historical weather data. EnWin experiences peak loads in both the summer and winter seasons. Environment Canada defines heating degree days and cooling degree days as the difference between the average daily temperature and 18°C for each day (below for heating, above for cooling).

To isolate the impact of CDM, persisting CDM as measured by the IESO is added back to rate class consumption to simulate the rate class consumption had there been no CDM program delivery. This is labelled as “Actual No CDM” throughout the model. The effect is to remove the impact of CDM from any explanatory variables which may capture a trend, and focus on the external factors. A weather normalized forecast is produced first based on no CDM delivery, and then CDM savings of historic programs are subtracted off to reflect the actual normal forecast.

While statistical regression is appropriate for estimating a relationship between explanatory variables and energy use, in the case of CDM, an independent measurement is available providing a greater level of accuracy than could be obtained through regression.

Overall economic activity also impacts energy consumption. There is no known agency that publishes monthly economic accounts on a regional basis for Ontario. However, regional employment levels are available. Specifically, the monthly full-time employment levels for Windsor and Ontario, as reported in Statistics Canada’s Monthly Labour Force Survey¹ were tested and used for the GS < 50 and Intermediate rate classes, respectively. The GS > 50 and Large Use rate classes were found to be more influenced by GDP in Ontario, which is available annually.²

¹ Statistics Canada Table 14-10-0294-01 – Formerly CANSIM series Table 282-0135

² Statistics Canada Table 36-10-0402-01 – Formerly CANSIM series Table 379-0330

In order to isolate demand determinants at the class specific level, equations to weather normalize and forecast kWh consumption for the Residential, GS < 50, GS > 50, Intermediate, and Large Use classes have been estimated.

In addition to the weather and economic variables, a time trend variable, number of days and number of working days in each month, number of customers, and month of year variables, have been examined for all rate classes. More details on the individual class specifications are provided in the next section.

Finally, for classes with demand charges, an annual kW to kWh ratio is calculated using actual observations for each historical year and applied to the normalized kWh to derive a weather normal kW observation. For forecast values, the 3-year moving average trend of the kW to kWh ratios for 2008-2017, including CDM, is applied for all rate classes. A trend is used because the actual kW to kWh ratios of most classes have changed over time.

1.1 SUMMARIZED RESULTS

The following table summarizes the historic and forecast kWh for 2013-2020:

Normal Forecast

kWh	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
Residential	617,011,741	598,157,531	593,984,431	619,568,738	583,858,255	584,339,743	580,540,749	576,741,755	574,911,717
GS < 50	217,023,476	212,401,262	207,733,155	208,239,182	199,190,043	205,390,646	203,954,049	202,249,993	200,909,468
GS > 50	940,634,724	966,794,318	941,653,982	954,879,861	935,689,536	957,476,205	968,184,332	977,025,233	983,364,681
Intermediate	45,666,584	47,519,842	44,363,941	44,045,564	44,136,954	43,340,513	42,892,419	41,910,227	40,874,806
Large User	295,185,914	304,014,292	301,194,469	318,162,193	299,472,217	312,728,259	321,546,905	321,110,393	317,827,139
Large Use 3TS	265,541,554	266,219,490	241,052,439	264,027,087	252,589,950	251,190,065	251,190,065	251,190,065	251,190,065
Large Use FA	48,126,675	47,308,909	47,202,926	44,370,767	42,875,821	43,030,414	41,981,366	40,932,318	39,883,269
Street Light	17,283,102	17,360,921	17,162,408	14,655,212	6,962,744	6,962,744	6,411,263	6,415,192	6,419,124
Sentinel Light	887,748	924,204	873,074	851,685	795,951	795,951	775,200	754,991	735,308
USL	3,254,726	2,436,825	2,410,786	2,415,557	2,368,616	2,368,616	2,239,601	2,230,745	2,221,924
Total	2,450,616,245	2,463,137,594	2,397,631,611	2,471,215,846	2,367,940,087	2,407,623,157	2,419,715,948	2,420,560,912	2,418,337,501

Table 1 kWh forecast by class

The following table summarizes 2015-2020 CDM Adjusted Load Forecast kWh. Details for this calculation can be found in Schedule 6 of this report.

CDM Adjusted

kWh	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
Residential	574,911,717	18,994,804	555,916,913
GS < 50	200,909,468	5,451,981	195,457,487
GS > 50	983,364,681	98,739,021	884,625,659
Intermediate	40,874,806	14,630,520	26,244,286
Large User	317,827,139	35,963,599	281,863,540
Large Use 3TS	251,190,065	13,634,353	237,555,713
Large Use FA	39,883,269	47,618	39,835,651
Street Light	6,419,124	0	6,419,124
Sentinel Light	735,308	0	735,308
USL	2,221,924	0	2,221,924
Total	2,418,337,501	187,461,895	2,230,875,607

Table 2 CDM Adjusted kWh forecast

The following table summarizes the historic and forecast kW for 2013-2020. The calculations can be found as follows:

Normal Forecast

kW	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
GS > 50	2,556,408	2,368,008	2,413,021	2,436,984	2,393,116	2,470,361	2,472,028	2,468,708	2,459,030
Intermediate	129,021	131,072	128,586	130,216	133,092	128,470	129,232	128,339	127,189
Large User	557,389	557,415	559,321	576,548	548,064	566,370	572,212	561,825	546,712
Large Use 3TS	535,816	524,555	487,725	515,987	495,653	499,655	488,592	477,529	466,465
Large Use FA	85,551	86,734	82,845	74,822	70,874	73,947	71,033	68,175	65,372
Street Light	49,480	49,412	49,145	43,203	19,819	19,992	18,409	18,420	18,431
Sentinel Light	2,439	2,542	2,448	2,365	2,230	2,206	2,148	2,092	2,038
Total	3,916,104	3,719,738	3,723,089	3,780,125	3,662,848	3,761,001	3,753,655	3,725,088	3,685,237

Table 3 kW Forecast

The following table summarizes 2015-2020 CDM Adjusted Load Forecast kW. Details for this calculation can be found at the end of in Schedule 6 of this report.

CDM Adjusted

kW	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
GS > 50	2,459,030	22,079	2,436,951
Intermediate	127,189	1,792	125,396
Large User	546,712	4,373	542,339
Large Use 3TS	466,465	2,841	463,625
Large Use FA	65,372	4	65,368
Street Light	18,431	0	18,431
Sentinel Light	2,038	0	2,038
Total	3,685,237	31,089	3,654,148

Table 4 CDM Adjusted kW Forecast

The following table summarizes the historic and forecast customer/connections for 2013-2020:

Customers / Connections

kW	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast
Residential	77,452	77,950	78,321	78,812	79,325	79,646	79,969	80,293
GS < 50	6,946	7,014	7,055	7,080	7,109	7,116	7,124	7,131
GS > 50	1,179	1,209	1,229	1,245	1,251	1,258	1,264	1,271
Intermediate	3	3	3	3	3	3	3	3
Large User	6	6	6	6	6	6	6	6
Large Use 3TS	2	2	2	2	2	2	2	2
Large Use FA	1	1	1	1	1	1	1	1
Street Light	23,386	23,460	23,495	23,518	24,144	24,158	24,173	24,188
Sentinel Light	641	631	616	602	554	540	526	512
USL	790	783	780	781	769	727	724	721
Total	110,405	111,059	111,507	112,049	113,163	113,457	113,792	114,128

Table 5 Customer / Connection Forecast for 2013-2020

2 CLASS SPECIFIC KWH REGRESSION

Regression is the method used to forecast energy use for Residential, GS < 50, GS > 50, Intermediate, and Large Use rate classes. Regression was not selected for Large Use 3TS, Large Use Ford Annex, Street Light, Sentinel Light, and USL rate classes – as these classes do not exhibit sufficient sensitivity to the explanatory variables available for a statistical regression approach.

2.1 RESIDENTIAL

For the Residential Class kWh consumption the equation was estimated using 120 observations from 2008:01-2017:12.

Heating and Cooling Degree days were used, as measured at the Windsor Riverside weather station as described in the introduction. A Trend variable was used, indicating 1 in January 2008, and incrementing once each month, reaching 120 in the last month of the regression, December 2017. A count of the number of calendar days in the month was used. Finally, binary indicator variables for the Spring months of March, April, and May, as well as the Fall months of September, October, and November, as well as a binary indicator variable for the month of September were used. The Fall and September coefficients nearly offset which indicates that the impact of fall is prevalent mainly in October and November.

Several other variables were examined and found to not show a statistically significant relationship to energy usage. Those included economic indicators of full time employment and GDP, and a count of customer accounts.

The following table outlines the resulting regression model:

Model 1: OLS, using observations 2008:01-2017:12 (T = 120)

Dependent variable: Residential_NO_CDM

	coefficient	std. error	t-ratio	p-value
const	-18835309.47	6092531.378	-3.10957	0.002376
HDD	24394.54796	1289.563658	19.14491	4.12E-37
CDD	171932.2338	5203.36385	33.37558	5.00E-60
Spring	-4176983.979	521535.6975	-8.01349	1.17E-12
Fall	-2347252.102	590934.6353	-3.92271	0.000151
MonthDays	1968955.613	202801.7543	9.792545	9.93E-17
Sept	2715900.057	675695.9549	4.042007	9.75E-05
Trend	-26381.90156	4352.791872	-6.5671	1.67E-09
Mean dependent var	52778288.22	S.D. dependent var	9946283	
Sum squared resid	3.0326E+14	S.E. of regression	1633587	
R-squared	0.974187463	Adjusted R-squared	0.973025	
F(7, 112)	603.8538387	P-value(F)	3.27E-86	
Log-likelihood	-1883.759886	Akaike criterion	3781.775	
Schwarz criterion	3805.819706	Hannan-Quinn	3790.832	
rho	-0.069412926	Durbin-Watson	2.178102	

Table 6 Residential Regression Model

Using the above model coefficients, we derive the following:

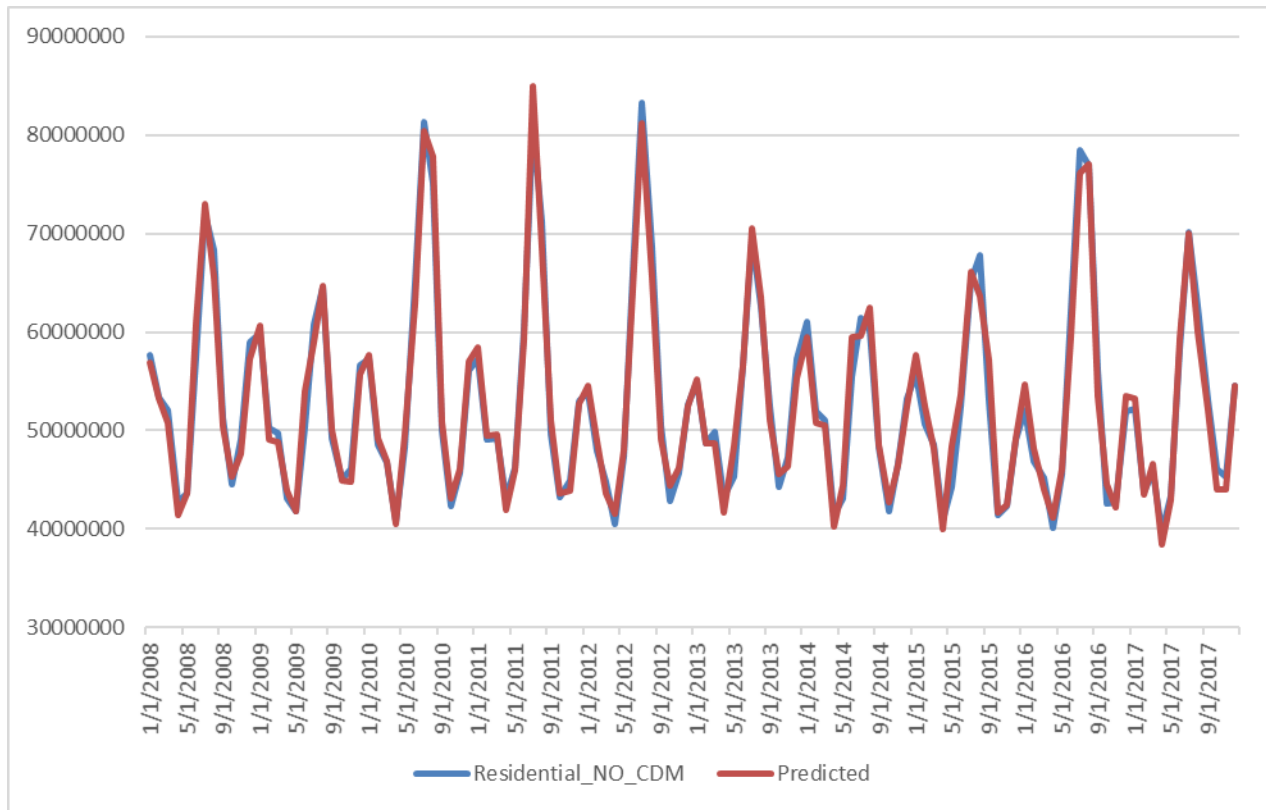


Figure 1 Residential Predicted vs Actual observations

Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 0.5%. The MAPE calculated monthly over the period is 2.3%. Elenchus considers the annual and monthly MAPE values to be appropriately low given the size of EnWin's Residential Class.

Year	Res kWh		Absolute Error (%)
	CDM	Added Back Predicted	
2008	651,024,957	646,000,981	0.8%
2009	617,540,504	617,378,469	0.0%
2010	656,956,763	662,069,717	0.8%
2011	648,263,943	649,261,561	0.2%
2012	644,174,271	639,803,748	0.7%
2013	632,113,222	631,612,026	0.1%
2014	615,560,427	617,289,512	0.3%
2015	611,654,935	620,642,594	1.5%
2016	640,933,752	640,600,508	0.1%
2017	615,171,812	608,735,469	1.0%
Mean Absolute Percentage Error (Annual)			0.5%
Mean Absolute Percentage Error (Monthly)			2.3%

Table 7 Residential model error

2.2 GS < 50

For the GS < 50 class, the regression equation was estimated using 120 observations from 2008:01-2017:12.

Heating degree days and cooling degree days were used, as measured at the Windsor Riverside weather station as described in the introduction. Windsor employment “Windsor_Empl” has been included as an indicator of economic activity. Measures for Ontario employment, and Ontario GDP were also tested, but found to be statistically less significant than Windsor employment. A count of the number of calendar days ‘MonthDays’ in the month has been included. A trend variable indicating 1 in January 2008, incrementing by 1 each month, and reaching 120 in December 2017 has been included.

Binary variables representing the Spring and Fall (“Shoulder”) months of March, April, May, September, October, and November, as well as indicators for the months of March and September have also been included.

The customer count was tested but found to not have a statistically significant relationship to energy usage.

The following table outlines the resulting regression model:

Model 5: OLS, using observations 2008:01-2017:12 (T = 120)

Dependent variable: GS_It_50_No_CDM

	coefficient	std. error	t-ratio	p-value
const	-789151	1716367	-0.45978	0.646574
HDD	4656.455	295.8333	15.74013	4.80E-30
CDD	24835.92	1139.905	21.78771	6.80E-42
Windsor_Empl	26876.12	7588.722	3.541587	0.000583
Trend	-15144	1321.268	-11.4617	1.53E-20
Mar	396678.6	135374.1	2.93024	0.004112
Sept	738961.9	127731.6	5.785273	6.79E-08
Shoulder	-710727	115747.8	-6.1403	1.31E-08
MonthDays	466123.4	42615.34	10.93793	2.46E-19
Mean dependent var	18793703	S.D. dependent var	1574461	
Sum squared resid	1.29E+13	S.E. of regression	340609.5	
R-squared	0.956346	Adjusted R-squared	0.9532	
F(8, 111)	303.9642	P-value(F)	9.23E-72	
Log-likelihood	-1694.21	Akaike criterion	3406.428	
Schwarz criterion	3431.515	Hannan-Quinn	3416.616	
rho	0.268672	Durbin-Watson	1.446692	

Table 8 GS < 50 Regression Model

Using the above model coefficients we derive the following:

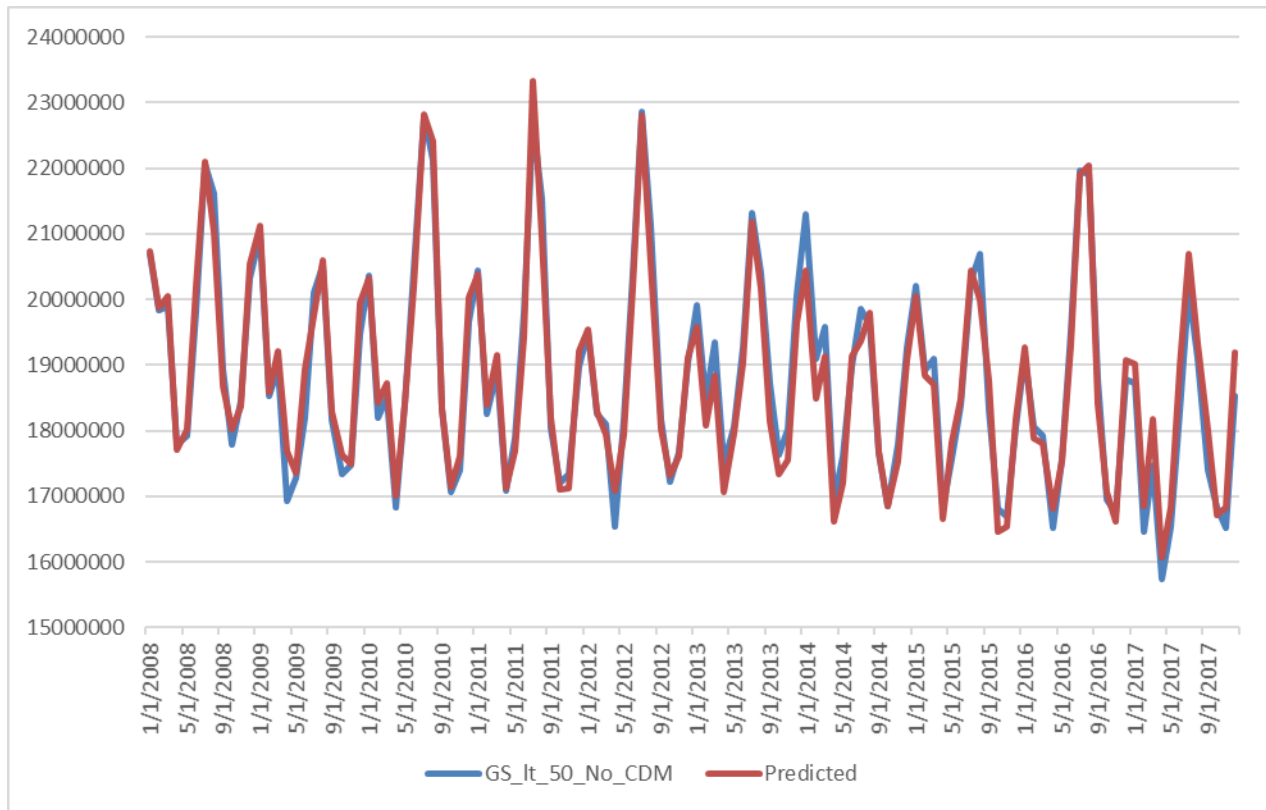


Figure 2 GS < 50 Predicted vs Actual observations

Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 0.8%. The MAPE calculated monthly over the period is 1.4%. Elenchus considers these values to be appropriately low given the relatively large number of customers in this rate class. Low MAPE values indicate that the model variables significantly reflect actual consumption.

	GS<50 kWh		Absolute Error (%)
	CDM Added Back	Predicted	
2008	235,141,228	235,360,421	0.1%
2009	223,945,291	226,637,202	1.2%
2010	230,145,437	231,419,075	0.6%
2011	228,157,622	228,064,091	0.0%
2012	227,061,142	226,412,706	0.3%
2013	228,735,101	224,584,994	1.8%
2014	224,527,430	221,372,259	1.4%
2015	221,869,668	220,970,271	0.4%
2016	223,883,451	223,721,804	0.1%
2017	211,777,974	216,701,521	2.3%

Mean Absolute Percentage Error (Annual) 0.8%

Mean Absolute Percentage Error (Monthly) 1.4%

Table 9 GS < 50 model error

2.3 GS > 50

For the GS > 50 class, the regression equation was estimated using 120 observations from 2008:01-2017:12.

Heating degree days and cooling degree days were used, as measured at the Windsor Riverside weather station as described in the introduction. Ontario GDP “Ont_GDP” has been included as an indicator of economic activity. Employment measures were also tested but found to be statistically less significant than Ontario GDP. A count of the number of calendar days ‘MonthDays’ in the month as well as working days ‘PeakDays’ have also been included. A trend variable indicating 1 in January 2008, incrementing by 1 each month, and reaching 120 in December 2017 has been included.

Binary variables representing the Spring and Fall season months were tested, however, separate binary indicators for April, June, August, September, and October were found to be much more statistically significant.

The customer count was tested but found to not have a statistically significant relationship to energy usage.

The following table outlines the resulting regression model:

Model 8: OLS, using observations 2008:01-2017:12 (T = 120)

Dependent variable: GS_gt_50_NO_CDM

	coefficient	std. error	t-ratio	p-value
const	-8.1E+07	11002783	-7.33259	4.37E-11
HDD	24599.68	1211.973	20.29721	1.19E-38
CDD	73393.94	4242.577	17.29938	6.62E-33
Ont_GDP	192.0653	16.28051	11.79725	3.88E-21
Trend	-151729	16290.2	-9.31411	1.69E-15
Apr	-1451998	649899.1	-2.23419	0.02753
Jun	1416618	681655.9	2.0782	0.040061
Aug	3108601	667181.4	4.659304	9.10E-06
Sept	3297905	673702.6	4.895194	3.46E-06
Oct	1577525	655905.5	2.40511	0.017868
MonthDays	1107665	236896.8	4.675729	8.51E-06
PeakDays	627611.2	172047.4	3.647897	0.000409
Mean dependent var	80843377	S.D. dependent var	5099002	
Sum squared resid	2.96E+14	S.E. of regression	1656090	
R-squared	0.904264	Adjusted R-squared	0.894513	
F(11, 108)	92.73679	P-value(F)	9.09E-50	
Log-likelihood	-1882.35	Akaike criterion	3788.695	
Schwarz criterion	3822.145	Hannan-Quinn	3802.279	
rho	0.478465	Durbin-Watson	1.020614	

Table 10 GS > 50 Regression Model

Using the above model coefficients we derive the following:

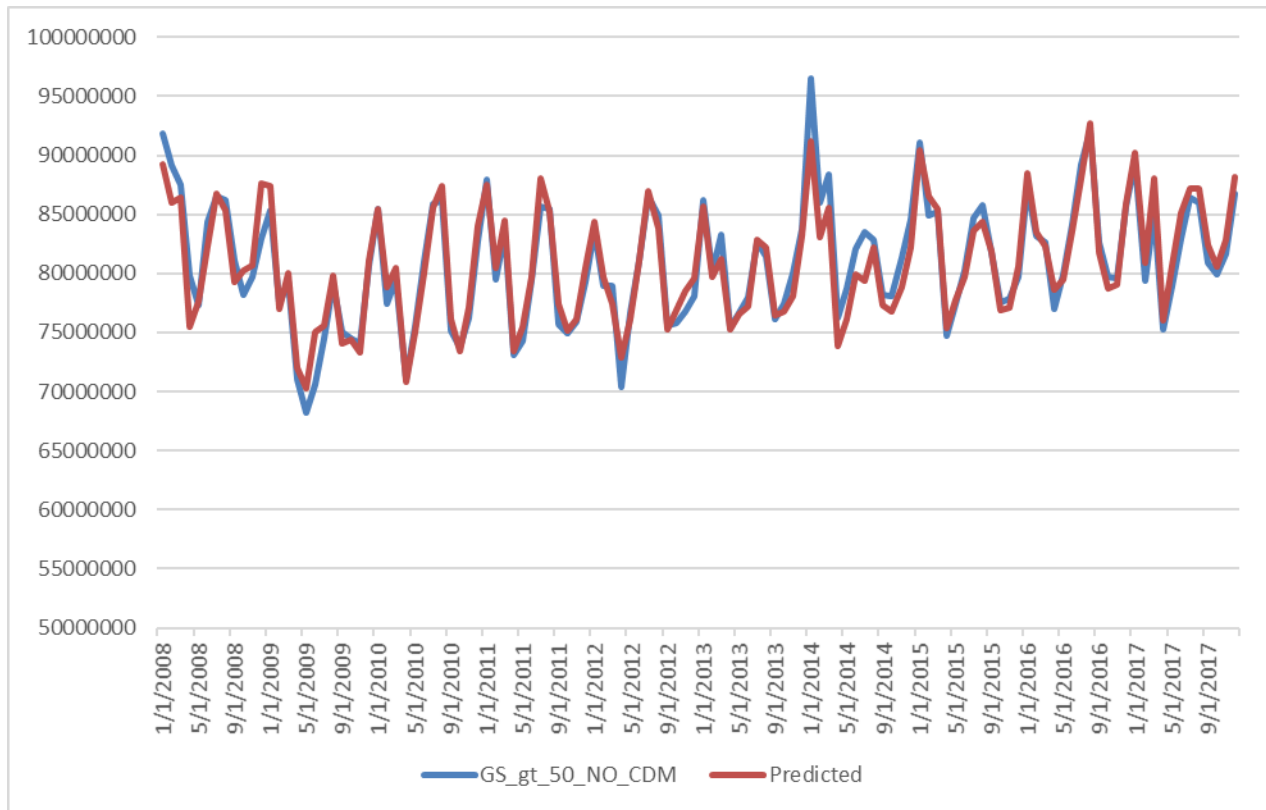


Figure 3 GS > 50 Predicted vs Actual observations

Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 0.9%. The MAPE calculated monthly over the period is 1.5%. Elenchus considers the MAPE values to be within an appropriate range given the relatively large number of customers in this rate class.

	GS>50 kWh		Absolute
	CDM Added Back	Predicted	Error (%)
2008	1,004,735,184	997,130,981	0.8%
2009	909,941,690	920,084,351	1.1%
2010	949,940,798	954,262,206	0.5%
2011	954,716,376	963,539,412	0.9%
2012	947,601,280	952,632,547	0.5%
2013	960,846,806	955,233,069	0.6%
2014	996,483,235	966,637,311	3.0%
2015	981,032,454	979,912,656	0.1%
2016	1,003,091,876	1,002,347,361	0.1%
2017	992,815,529	1,009,425,332	1.7%
Mean Absolute Percentage Error (Annual)			0.9%
Mean Absolute Percentage Error (Monthly)			1.5%

Table 11 GS > 50 model error

2.4 INTERMEDIATE

For the Intermediate class, the regression equation was estimated using 120 observations from 2008:01-2017:12.

Ontario employment “Ont_Empl” has been included as an indicator of economic activity. Measures for Windsor employment, and Ontario GDP were also tested, but found to be statistically less significant than Ontario employment. A count of the number of calendar days ‘MonthDays’ in the month has been included. A trend variable indicating 1 in January 2008, incrementing by 1 each month, and reaching 120 in December 2017 has been included. A binary indicator variable for the Fall months of September, October, and November, as well as binary indicator variables for the months of June and July were used.

Heating Degree Days and Cooling degree days were tested, but found to not have a statistically significant relationship to energy usage. This is not surprising as Intermediate customer classes frequently do not have any weather sensitive customers. The customer count was tested, but also found to not have a statistically significant relationship to energy usage.

The following table outlines the resulting regression model:

Model 38: OLS, using observations 2008:01-2017:12 (T = 120)

Dependent variable: Intermediate_NO_CDM

	coefficient	std. error	t-ratio	p-value
const	-8216913	2688478	-3.05634	2.80E-03
Trend	-13431.2	2313.956	-5.80441	6.01E-08
Ont_Empl	1221.822	390.5926	3.128124	2.24E-03
Jun	340077.8	96445.27	3.526122	0.00061
Jul	424185.1	96775.59	4.383183	2.63E-05
Fall	205410.5	61719.5	3.32813	1.18E-03
MonthDays	151639	33163.34	4.572489	1.24E-05
Mean dependent var	3966276	S.D. dependent var	410324.7	
Sum squared resid	8.95E+12	S.E. of regression	281495.7	
R-squared	0.55309	Adjusted R-squared	5.29E-01	
F(6, 113)	23.30792	P-value(F)	9.14E-18	
Log-likelihood	-1672.41	Akaike criterion	3358.822	
Schwarz criterion	3378.335	Hannan-Quinn	3366.746	
rho	0.274746	Durbin-Watson	1.442554	

Table 12 Intermediate Regression Model

Using the above model coefficients we derive the following:

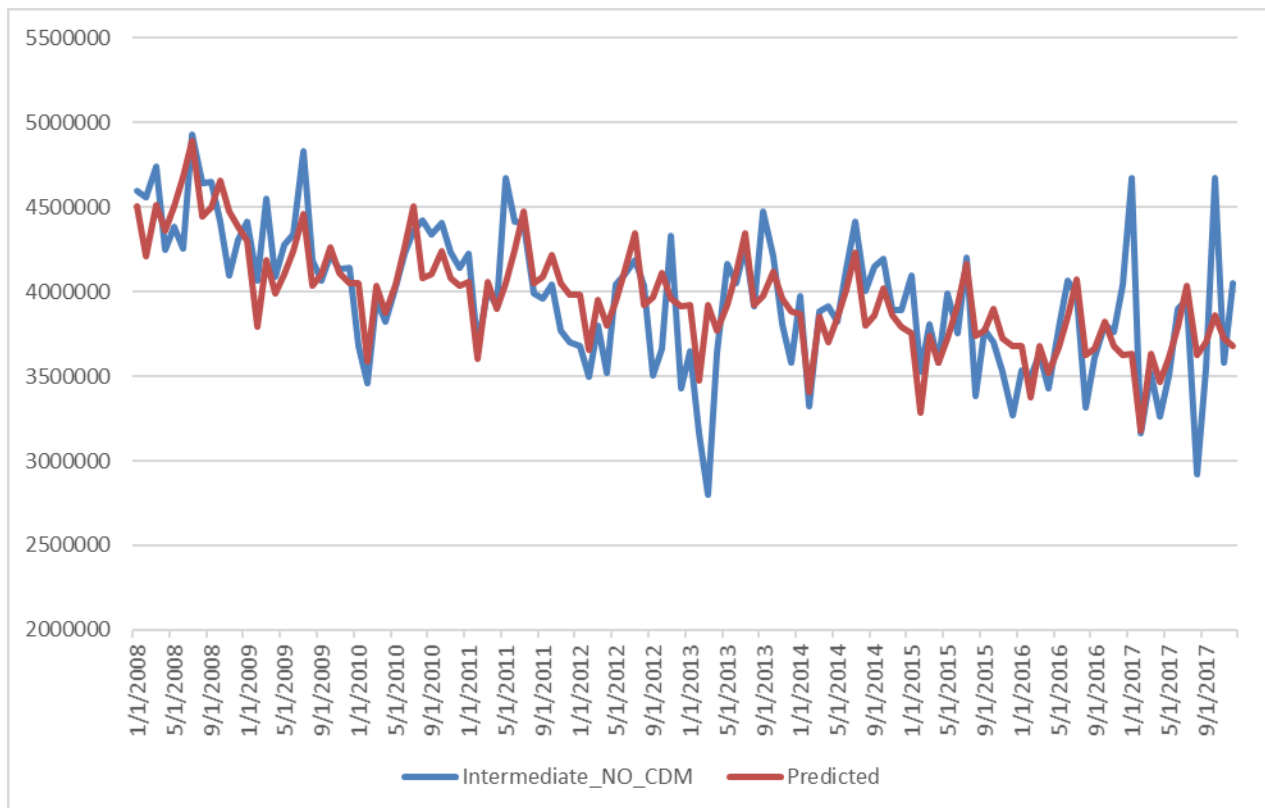


Figure 4 Intermediate Predicted vs Actual observations

Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 1.8%. The MAPE calculated monthly over the period is 5.1%. Though these values are materially higher than the MAPE values for other classes Elenchus considers these values reasonable. Higher annual and monthly errors can be expected given that there are only three customers in the Intermediate Class.

	Intermediate kWh		Absolute
	CDM Added Back	Predicted	Error (%)
2008	53,824,580	54,134,478	0.6%
2009	51,306,802	49,635,531	3.3%
2010	49,071,888	48,902,497	0.3%
2011	48,794,571	48,794,180	0.0%
2012	45,796,604	47,686,178	4.1%
2013	45,730,149	47,326,766	3.5%
2014	47,596,961	46,263,228	2.8%
2015	44,614,256	44,982,084	0.8%
2016	44,469,364	44,276,673	0.4%
2017	44,747,913	43,951,472	1.8%

Mean Absolute Percentage Error (Annual) 1.8%

Mean Absolute Percentage Error (Monthly) 5.1%

Table 13 Intermediate model error

2.5 LARGE USE

For the Large Use class, the regression equation was estimated using 120 observations from 2008:01-2017:12.

Cooling degree days were used, as measured at the Windsor Riverside weather station as described in the introduction. Heating Degree Days were tested, but found to not have a statically significant relationship to energy use. Ontario Employment "Ont_Empl" has been included as an indicator of economic activity. Measures for GDP were also tested, but found to be statistically less significant than Ontario Employment. A count of the number of calendar days 'MonthDays' has been included. A trend variable indicating 1 in January 2008, incrementing by 1 each month, and reaching 120 in December 2017 has been included.

Binary variables representing the months of July and December have also been included. Binary variables representing the Spring and Fall season months was tested but found to not have a statistically significant relationship to energy usage.

The following table outlines the resulting regression model:

Model 2: OLS, using observations 2008:01-2017:12 (T = 120)

Dependent variable: Large_Use_NO_CDM

	coefficient	std. error	t-ratio	p-value
const	-1.3E+08	13072983	-10.1368	1.45E-17
CDD	26652.55	2418.372	11.02087	1.27E-19
Ont_Empl	21172.5	1892.964	11.18484	5.28E-20
Trend	-117580	11217.23	-10.4821	2.28E-18
Jul	-1709094	571226.5	-2.99197	0.003404
Dec	-2274932	479539.8	-4.74399	6.17E-06
MonthDays	703352.8	164972.6	4.263451	4.19E-05
Mean dependent var	25937095	S.D. dependent var	2726776	
Sum squared resid	2.1E+14	S.E. of regression	1364286	
R-squared	0.762292	Adjusted R-squared	0.749671	
F(6, 113)	60.39562	P-value(F)	5.51E-33	
Log-likelihood	-1861.8	Akaike criterion	3737.607	
Schwarz criterion	3757.119	Hannan-Quinn	3745.531	
rho	0.590406	Durbin-Watson	0.792038	

Table 14 Large Use Regression Model

Using the above model coefficients we derive the following:

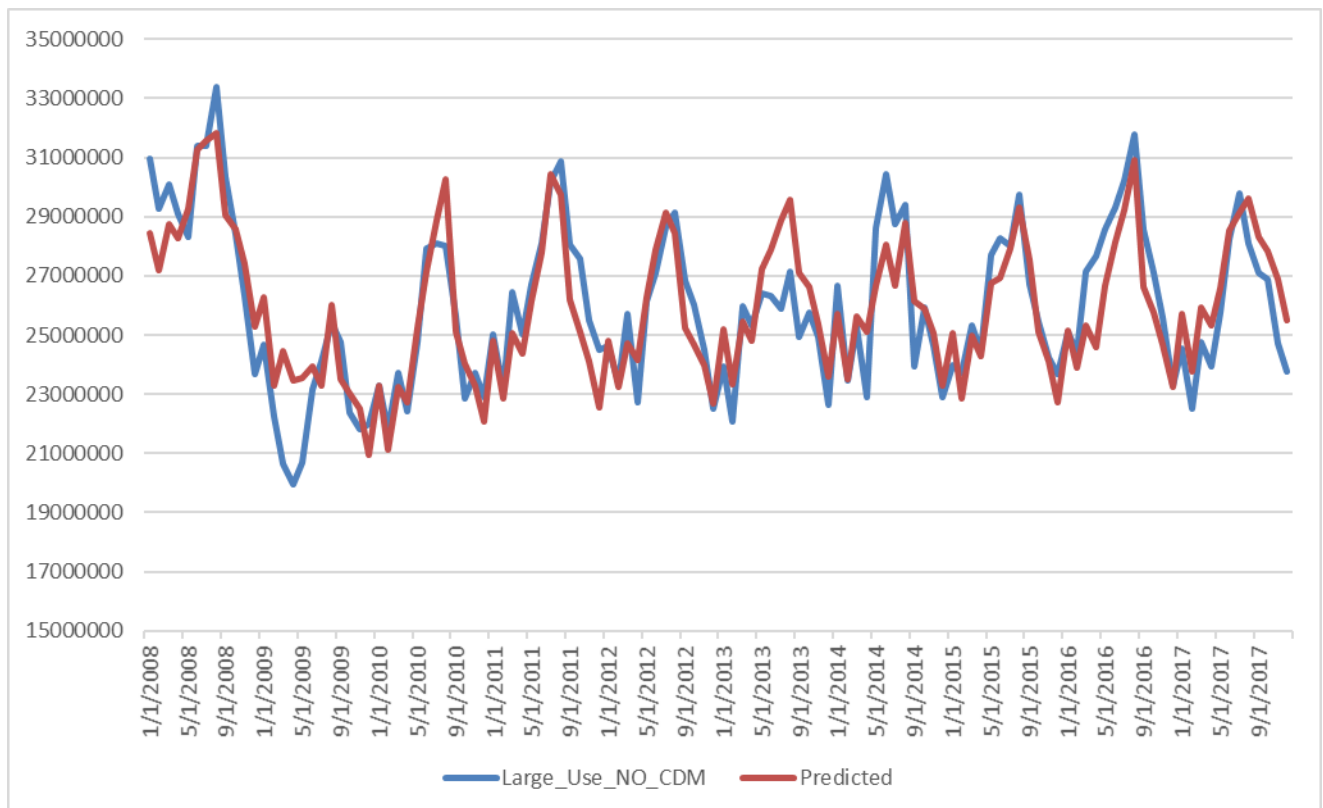


Figure 5 Large Use Predicted vs Actual observations

Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 2.6%. The MAPE calculated monthly over the period is 4.2%. Elenchus considers these values to be in an acceptable range for a rate class with only six customers.

	Large Use kWh		Absolute Error (%)
	CDM Added Back	Predicted	
2008	352,691,146	346,898,919	1.6%
2009	271,865,804	284,239,931	4.6%
2010	295,089,951	296,369,926	0.4%
2011	321,215,292	309,237,425	3.7%
2012	307,352,197	305,205,525	0.7%
2013	301,275,992	315,009,234	4.6%
2014	312,895,351	310,503,178	0.8%
2015	311,302,178	307,543,484	1.2%
2016	328,714,008	314,283,245	4.4%
2017	310,049,537	323,160,589	4.2%

Mean Absolute Percentage Error (Annual) 2.6%

Mean Absolute Percentage Error (Monthly) 4.2%

Table 15 Large Use model error

3 WEATHER NORMALIZATION AND ECONOMIC FORECAST

It is not possible to accurately forecast weather for months or years in advance. Therefore, one can only base future weather expectations on what has happened in the past. Individual years may experience unusual spells of weather (unusually cold winter, unusually warm summer, etc.). However, over time, these unusual spells “average” out. While there may be trends over several years (e.g., warmer winters for example), using several years of data rather than one particular year filters out the extremes of any particular year. While there are several different approaches to determining an appropriate weather normal, EnWin has adopted the most recent 10-year monthly degree day average as the definition of weather normal, consistent with many LDCs load forecast filings for cost-of-service rebasing applications. It is Elenchus’ opinion that the 10-year average HDD and CDD are more appropriate weather figures for the purposes of short-term load forecasts. The 20-year trend figures tend to be over reliant on the first and last year values, which can sometimes lead to negative values for HDD and CDD, and are typically more volatile from year to year than 10-year average values.

3.1 10-YEAR AVERAGE

The table below displays the most recent 10-year average of heating degree days and cooling degree days as reported by Environment Canada for Windsor Riverside, which is used as the weather station for EnWin.

10 Year Average

		HDD	CDD
Windsor Riverside	January	659.43	0
Windsor Riverside	February	571.77	0
Windsor Riverside	March	456.54	0.48
Windsor Riverside	April	248.55	2.78
Windsor Riverside	May	92.74	41.84
Windsor Riverside	June	9.08	117.04
Windsor Riverside	July	0.51	183.26
Windsor Riverside	August	1.51	152.91
Windsor Riverside	September	33.01	67.68
Windsor Riverside	October	177.84	8.6
Windsor Riverside	November	361.95	0.05
Windsor Riverside	December	556.41	0

Table 16 - 10 Year Average HDD and CDD

3.2 20-YEAR TREND

As part of the minimum filing requirements the OEB has requested monthly degree days calculated using a trend based on 20 years. This is shown in the table below.

20 Year Trend

		HDD	CDD
Windsor Riverside	January	665.15	0.00
Windsor Riverside	February	611.18	0.00
Windsor Riverside	March	458.46	0.00
Windsor Riverside	April	254.29	1.68
Windsor Riverside	May	102.64	46.39
Windsor Riverside	June	0.40	113.77
Windsor Riverside	July	0.58	182.38
Windsor Riverside	August	1.67	154.68
Windsor Riverside	September	30.41	70.31
Windsor Riverside	October	158.94	14.78
Windsor Riverside	November	375.93	0.10
Windsor Riverside	December	548.76	0.00

Table 17 - 20 Year Trend HDD and CDD

Normalized and forecast results for the weather-sensitive rate classes were reproduced using 20-year trend HDD and CDD values. The summarized results are presented below.

Normal Forecast

kWh	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
Residential	617,011,741	598,157,531	593,984,431	619,568,738	583,858,255	586,914,722	583,115,728	579,316,734	577,486,696
GS < 50	217,023,476	212,401,262	207,733,155	208,239,182	199,190,043	205,806,845	204,370,248	202,666,192	201,325,667
GS > 50	940,634,724	966,794,318	941,653,982	954,879,861	935,689,536	959,129,499	969,837,625	978,678,526	985,017,974
Intermediate	45,666,584	47,519,842	44,363,941	44,045,564	44,136,954	43,492,152	43,044,058	42,061,866	40,874,806
Large User	295,185,914	304,014,292	301,194,469	318,162,193	299,472,217	313,683,076	322,501,721	322,065,210	318,078,602
Large Use 3TS	265,541,554	266,219,490	241,052,439	264,027,087	252,589,950	251,190,065	251,190,065	251,190,065	251,190,065
Large Use FA	48,126,675	47,308,909	47,202,926	44,370,767	42,875,821	43,030,414	41,981,366	40,932,318	39,883,269
Street Light	17,283,102	17,360,921	17,162,408	14,655,212	6,962,744	6,962,744	6,411,263	6,415,192	6,419,124
Sentinel Light	887,748	924,204	873,074	851,685	795,951	795,951	775,200	754,991	735,308
USL	3,254,726	2,436,825	2,410,786	2,415,557	2,368,616	2,368,616	2,239,601	2,230,745	2,221,924
Total	2,450,616,245	2,463,137,594	2,397,631,611	2,471,215,846	2,367,940,087	2,413,374,085	2,425,466,875	2,426,311,839	2,423,233,437

Table 18 kWh forecast by class – 20-year trend

CDM Adjusted

kWh	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
Residential	577,486,696	18,994,804	558,491,893
GS < 50	201,325,667	5,451,981	195,873,686
GS > 50	985,017,974	98,739,021	886,278,953
Intermediate	40,874,806	14,630,520	26,244,286
Large User	318,078,602	35,963,599	282,115,004
Large Use 3TS	251,190,065	13,634,353	237,555,713
Large Use FA	39,883,269	47,618	39,835,651
Street Light	6,419,124	0	6,419,124
Sentinel Light	735,308	0	735,308
USL	2,221,924	0	2,221,924
Total	2,423,233,437	187,461,895	2,235,771,542

Table 19 CDM Adjusted kWh forecast– 20-year trend

Normal Forecast

kW	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2017 Normalized	2018 Forecast	2019 Forecast	2020 Forecast
GS > 50	2,556,408	2,368,008	2,413,021	2,436,984	2,393,116	2,474,402	2,476,030	2,472,671	2,462,953
Intermediate	129,021	131,072	128,586	130,216	133,092	128,913	129,683	128,797	127,189
Large User	557,389	557,415	559,321	576,548	548,064	568,047	573,861	563,447	547,132
Large Use 3TS	535,816	524,555	487,725	515,987	495,653	499,655	488,592	477,529	466,465
Large Use FA	85,551	86,734	82,845	74,822	70,874	73,947	71,033	68,175	65,372
Street Light	49,480	49,412	49,145	43,203	19,819	20,094	18,503	18,514	18,526
Sentinel Light	2,439	2,542	2,448	2,365	2,230	2,206	2,148	2,092	2,038
Total	3,916,104	3,719,738	3,723,089	3,780,125	3,662,848	3,767,265	3,759,851	3,731,224	3,689,674

Table 20 kW Forecast– 20-year trend

CDM Adjusted

kW	2020 Weather Normal Forecast	CDM Adjustment	2020 CDM Adjusted Forecast
GS > 50	2,462,953	22,079	2,440,874
Intermediate	127,189	1,792	125,396
Large User	547,132	4,373	542,758
Large Use 3TS	466,465	2,841	463,625
Large Use FA	65,372	4	65,368
Street Light	18,526	0	18,526
Sentinel Light	2,038	0	2,038
Total	3,689,674	31,089	3,658,584

Table 21 CDM Adjusted kW Forecast– 20-year trend

3.3 ECONOMIC FORECAST

GDP and employment forecasts are based on the mean forecasts of four major Canadian banks, RBC, TD, Scotiabank and BMO, as of October 2018. Forecast growth rates in 2020 were available only from TD and Scotiabank at this time. Average forecast rates are applied to the most recent GDP and Labour Force Survey data available from Statistics Canada.

4 CLASS SPECIFIC NORMALIZED FORECASTS

4.1 RESIDENTIAL

Incorporating the forecast economic variables, 10-yr weather normal heating and cooling degree days, and calendar variables, the following weather corrected consumption and forecast values are calculated:

Year	Residential kWh					
	Actual	tive Persisting CDM	Actual No CDM	rmalized No CDM	sisting CDM	Normalized
	A	B	C = A + B	D	E = B	F = D - E
2008	639,846,723	11,178,234	651,024,957	651,813,200	11,178,234	640,634,966
2009	604,635,109	12,905,395	617,540,504	646,045,250	12,905,395	633,139,855
2010	647,490,325	9,466,438	656,956,763	642,246,257	9,466,438	632,779,819
2011	636,991,611	11,272,333	648,263,943	638,447,263	11,272,333	627,174,930
2012	631,309,636	12,864,635	644,174,271	636,617,224	12,864,635	623,752,589
2013	617,011,741	15,101,481	632,113,222	630,849,275	15,101,481	615,747,794
2014	598,157,531	17,402,895	615,560,427	627,050,281	17,402,895	609,647,386
2015	593,984,431	17,670,504	611,654,935	623,251,287	17,670,504	605,580,784
2016	619,568,738	21,365,014	640,933,752	621,421,249	21,365,014	600,056,235
2017	583,858,255	31,313,557	615,171,812	615,653,300	31,313,557	584,339,743
2018				611,854,306	31,313,557	580,540,749
2019				608,055,312	31,313,557	576,741,755
2020				606,225,274	31,313,557	574,911,717

Table 22 Actual vs Normalized Residential kWh

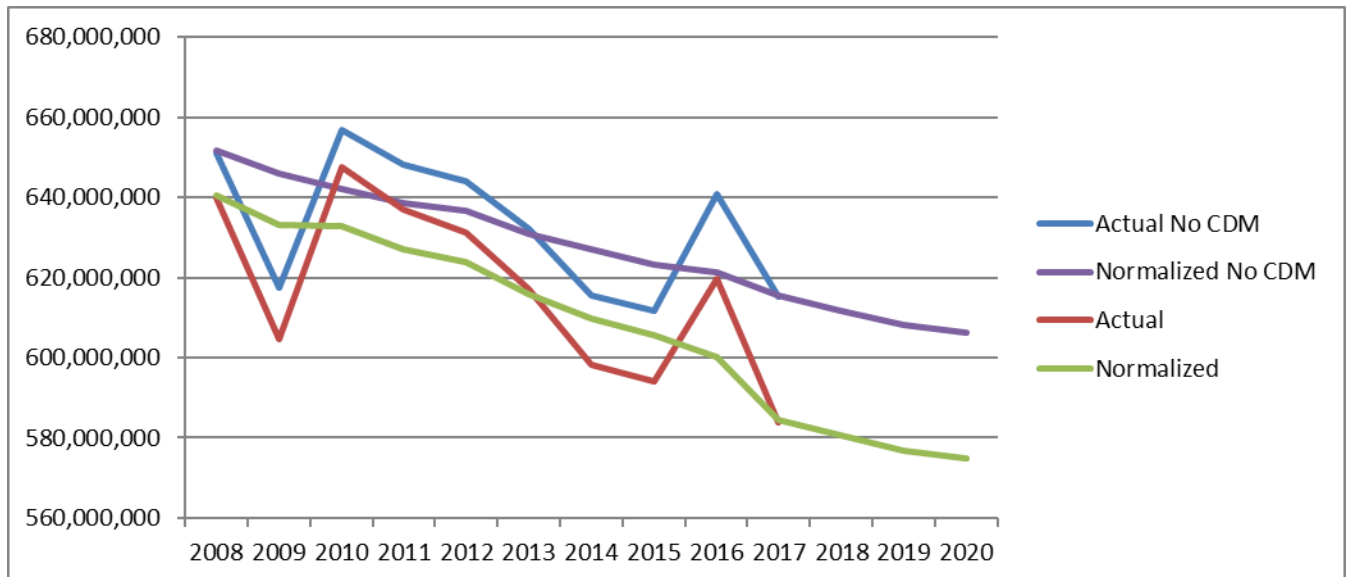


Figure 6 Actual vs Normalized Residential kWh

While Residential customer counts are not a component of the regression model, they are forecasted for the purpose of rate setting. The Geometric mean of the annual growth from 2008 to 2017 was used to forecast the growth rate from 2018 to 2020.

Year	Residential Customers	Percent of Prior Year
2008	76,487	
2009	76,419	99.91%
2010	76,605	100.24%
2011	76,747	100.19%
2012	77,099	100.46%
2013	77,452	100.46%
2014	77,950	100.64%
2015	78,321	100.48%
2016	78,812	100.63%
2017	79,325	100.65%
2018	79,646	100.41%
2019	79,969	100.41%
2020	80,293	100.41%

Table 23 Forecasted Residential Customer Count

4.2 GS < 50

Incorporating the forecast economic variables, 10-yr weather normal heating and cooling degree days, and calendar variables, the following weather corrected consumption and forecast values are calculated:

Year	GS<50 kWh					
	Actual	Persisting CDM	Actual No CDM	Normalized No CDM	Persisting CDM	Normalized
	A	B	C = A + B	D	E = B	F = D - E
2008	234,974,861	166,367	235,141,228	235,964,241	166,367	235,797,874
2009	220,940,436	3,004,855	223,945,291	230,643,207	3,004,855	227,638,352
2010	223,232,846	6,912,591	230,145,437	228,639,853	6,912,591	221,727,261
2011	218,915,072	9,242,551	228,157,622	226,453,741	9,242,551	217,211,191
2012	216,236,229	10,824,913	227,061,142	226,410,823	10,824,913	215,585,910
2013	217,023,476	11,711,624	228,735,101	224,304,173	11,711,624	212,592,549
2014	212,401,262	12,126,169	224,527,430	222,303,507	12,126,169	210,177,338
2015	207,733,155	14,136,513	221,869,668	221,332,196	14,136,513	207,195,683
2016	208,239,182	15,644,269	223,883,451	221,214,025	15,644,269	205,569,756
2017	199,190,043	12,587,931	211,777,974	217,978,578	12,587,931	205,390,646
2018				216,541,981	12,587,931	203,954,049
2019				214,837,924	12,587,931	202,249,993
2020				213,497,399	12,587,931	200,909,468

Table 24 Actual vs Normalized GS < 50 kWh

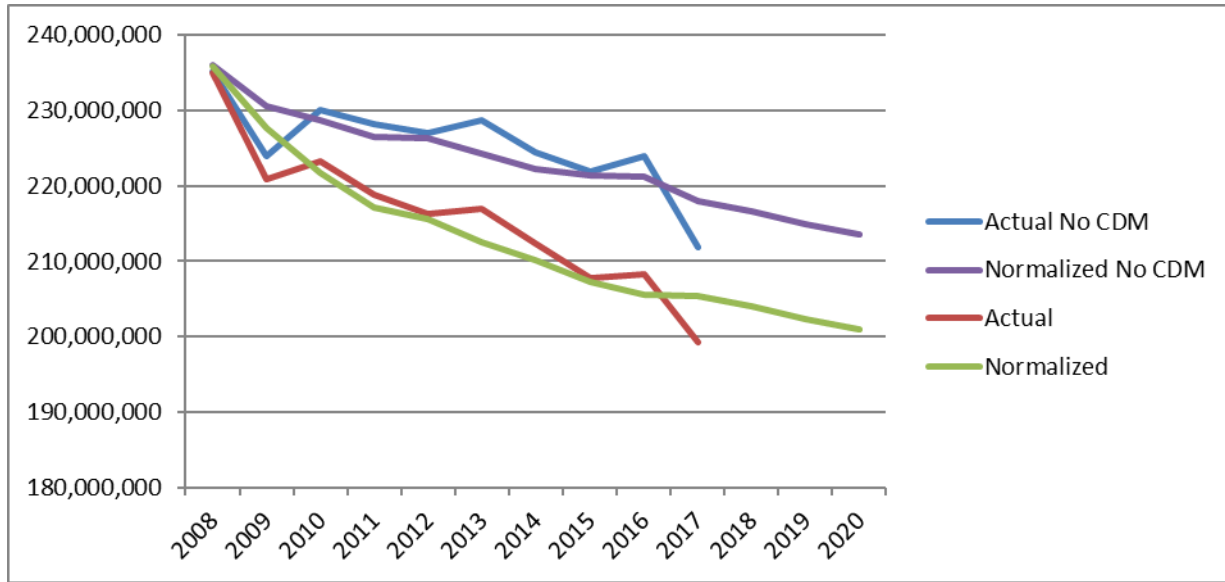


Figure 7 Actual vs Normalized GS < 50 kWh

While GS < 50 customer counts are not a component of the regression model, they are forecasted for the purpose of rate setting. The Geometric mean of the annual growth from 2008 to 2017 was used to forecast the growth rate from 2018 to 2020.

The following table includes the customer Actual / Forecast customer count on this basis:

Year	GS < 50 Customers	Percent of Prior Year
2008	7,043	
2009	6,970	98.97%
2010	6,948	99.68%
2011	6,929	99.73%
2012	6,922	99.90%
2013	6,946	100.34%
2014	7,014	100.99%
2015	7,055	100.58%
2016	7,080	100.35%
2017	7,109	100.41%
2018	7,116	100.10%
2019	7,124	100.10%
2020	7,131	100.10%

Table 25 Forecasted GS < 50 Customer Count

4.3 GS > 50

Incorporating the forecast economic variables, 10-yr weather normal heating and cooling degree days, and calendar variables, the following weather corrected consumption and forecast values are calculated:

GS>50 kWh						
Year	Actual	Persisting CDM	Actual No CDM	Normalized No CDM	Persisting CDM	Normalized
	A	B	C = A + B	D	E = B	F = D - E
2008	1,004,355,680	379,504	1,004,735,184	996,659,085	379,504	996,279,581
2009	906,614,905	3,326,785	909,941,690	930,631,117	3,326,785	927,304,332
2010	943,095,059	6,845,739	949,940,798	946,856,044	6,845,739	940,010,305
2011	946,489,083	8,227,293	954,716,376	958,319,270	8,227,293	950,091,977
2012	934,809,261	12,792,019	947,601,280	957,014,017	12,792,019	944,221,999
2013	940,634,724	20,212,082	960,846,806	952,770,175	20,212,082	932,558,092
2014	966,794,318	29,688,917	996,483,235	964,808,020	29,688,917	935,119,103
2015	941,653,982	39,378,472	981,032,454	980,839,557	39,378,472	941,461,085
2016	954,879,861	48,212,015	1,003,091,876	997,450,522	48,212,015	949,238,507
2017	935,689,536	57,125,993	992,815,529	1,014,602,198	57,125,993	957,476,205
2018				1,025,310,325	57,125,993	968,184,332
2019				1,034,151,226	57,125,993	977,025,233
2020				1,040,490,674	57,125,993	983,364,681

Table 26 Actual vs Normalized GS > 50 kWh

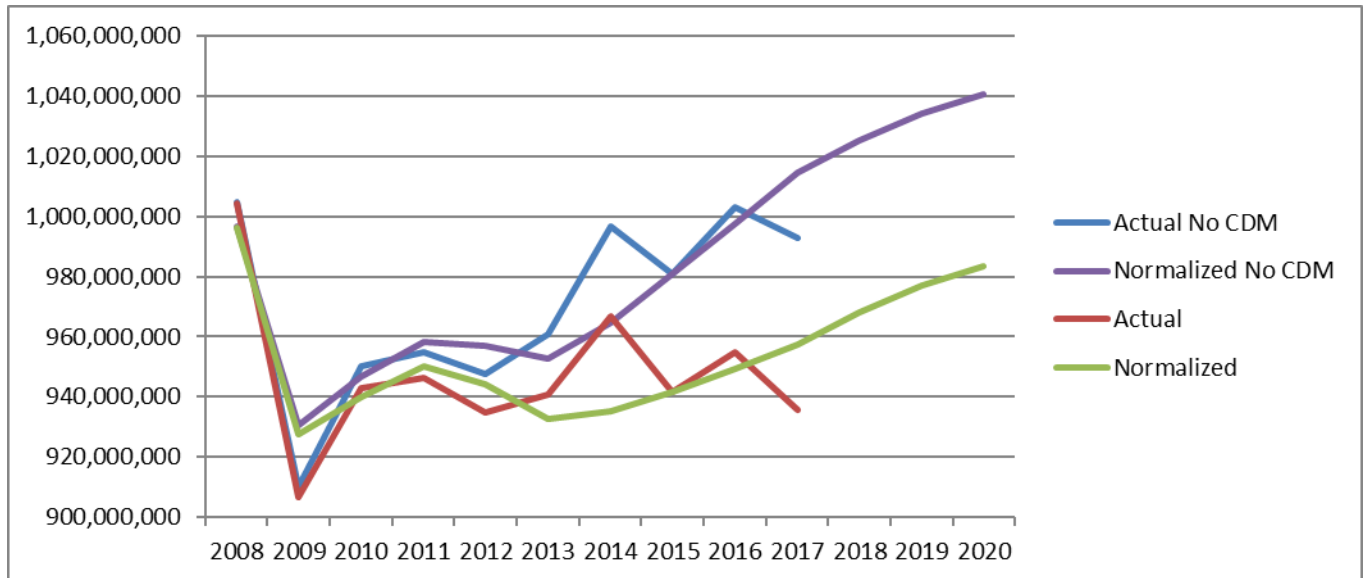


Figure 8 Actual vs Normalized GS > 50 kWh

While GS > 50 customer counts are not a component of the regression model, they are forecasted for the purpose of rate setting. The Geometric mean of the annual growth from 2008 to 2017 was used to forecast the growth rate from 2018 to 2020.

The following table includes the customer Actual / Forecast customer count on this basis:

Year	GS > 50 Customers	Percent of Prior Year
2008	1,195	
2009	1,176	98.39%
2010	1,189	101.11%
2011	1,195	100.55%
2012	1,179	98.68%
2013	1,179	100.00%
2014	1,209	102.54%
2015	1,229	101.61%
2016	1,245	101.32%
2017	1,251	100.50%
2018	1,258	100.51%
2019	1,264	100.51%
2020	1,271	100.51%

Table 27 Forecasted GS > 50 Customer Count

In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The trend of the 3-year moving average of the kW/kWh ratio from 2008-2017 is used to forecast kW for all future years. The kW and kWh figures include CDM to determine with kW/kWh ratio in absence of CDM activities. CDM is removed from the final kW forecast.

This method recognizes that there is a clear trend in the kW to kWh ratio over time for most customer classes. When a trend is present a simple average can cause the forecast to be influenced by ratios that do not reflect current or expected ratios.

GS>50					Ratio Moving Average
Year	kWh A	kW B	Ratio C = B / A		
2008	1,004,735,184	2,591,437	0.002579		
2009	909,941,690	2,411,773	0.002650		
2010	949,940,798	2,413,114	0.002540		0.002590
Actual	2011	954,716,376	2,437,056	0.002553	0.002581
With CDM	2012	947,601,280	2,429,607	0.002564	0.002552
	2013	960,846,806	2,559,687	0.002664	0.002594
	2014	996,483,235	2,372,781	0.002381	0.002536
	2015	981,032,454	2,419,327	0.002466	0.002504
	2016	1,003,091,876	2,444,918	0.002437	0.002428
	2017	992,815,529	2,403,110	0.002421	0.002441

kWh Normalized	kW Normalized	Ratio Trend
----------------	---------------	----------------

		D	F = D * E	E
	2017	1,014,602,198	2,480,355	0.002445
Forecast	2018	1,025,310,325	2,482,023	0.002421
	2019	1,034,151,226	2,478,703	0.002397
	2020	1,040,490,674	2,469,024	0.002373
	2017	957,476,205	2,470,361	
Forecast	2018	968,184,332	2,472,028	
CDM	2019	977,025,233	2,468,708	
Removed	2020	983,364,681	2,459,030	

Table 28 Forecasted GS > 50 kW

4.4 INTERMEDIATE

While the Intermediate rate class is not weather sensitive, it is sensitive to economic and calendar variables. Incorporating these forecast economic variables and calendar variables, the following weather corrected consumption and forecast values are calculated:

Year	Intermediate					
	Actual	Persisting CDM	Actual No CDM	Normalized No CDM	Persisting CDM	Normalized
	A	B	C = A + B	D	E = B	F = D - E
2008	53,824,580	0	53,824,580	54,134,478	0	54,134,478
2009	51,306,802	0	51,306,802	49,635,531	0	49,635,531
2010	49,071,888	0	49,071,888	48,902,497	0	48,902,497
2011	48,794,571	0	48,794,571	48,794,180	0	48,794,180
2012	45,768,540	28,065	45,796,604	47,686,178	28,065	47,658,114
2013	45,666,584	63,564	45,730,149	47,326,766	63,564	47,263,202
2014	47,519,842	77,119	47,596,961	46,263,228	77,119	46,186,109
2015	44,363,941	250,315	44,614,256	44,982,084	250,315	44,731,769
2016	44,045,564	423,800	44,469,364	44,276,673	423,800	43,852,874
2017	44,136,954	610,959	44,747,913	43,951,472	610,959	43,340,513
2018				43,503,377	610,959	42,892,419
2019				42,521,186	610,959	41,910,227
2020				41,485,765	610,959	40,874,806

Table 29 Actual vs Normalized Intermediate kWh

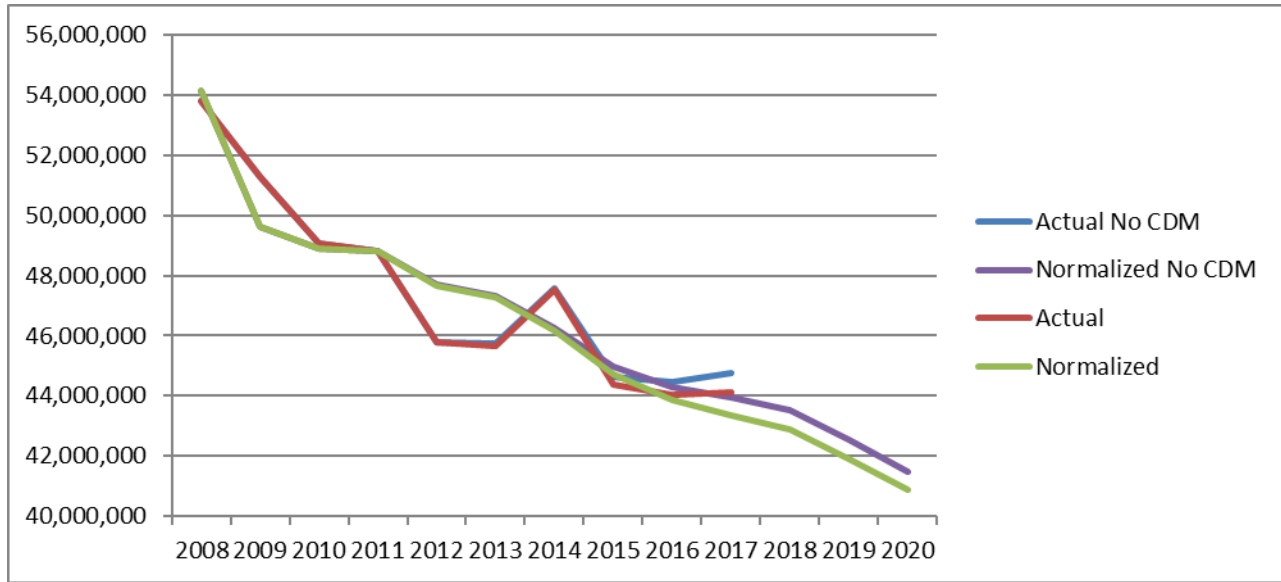


Figure 9 Actual vs Normalized Intermediate kWh

While Intermediate customer counts are not a component of the regression model, they are forecasted for the purpose of rate setting. Throughout the entire 10 year historical time horizon, the intermediate rate class has had 3 customers, and this is expected to continue into 2020.

In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The trend of the 3-year moving average of the kW/kWh ratio from 2008-2017 is used to forecast kW for all future years. The kW and kWh figures include CDM to determine with kW/kWh ratio in absence of CDM activities. CDM is removed from the final kW forecast.

Intermediate					Ratio Moving Average
Year	kWh	kW	Ratio		
	A	B	C = B / A		
2008	53,824,580	136,365	0.002534		
2009	51,306,802	130,057	0.002535		
2010	49,071,888	130,266	0.002655		0.002574
Actual	2011	48,794,571	130,752	0.002680	0.002623
With CDM	2012	45,796,604	127,753	0.002790	0.002708
	2013	45,730,149	129,025	0.002821	0.002764
	2014	47,596,961	131,080	0.002754	0.002788
	2015	44,614,256	128,604	0.002883	0.002819
	2016	44,469,364	130,244	0.002929	0.002855
	2017	44,747,913	133,150	0.002976	0.002929

kWh Normalized	kW Normalized	Ratio Trend
----------------	---------------	----------------

		D	F = D * E	E
	2017	43,951,472	128,529	0.002924
Forecast	2018	43,503,377	129,291	0.002972
	2019	42,521,186	128,398	0.003020
	2020	41,485,765	127,248	0.003067
	2017	43,340,513	128,470	
Forecast	2018	42,892,419	129,232	
CDM	2019	41,910,227	128,339	
Removed	2020	40,874,806	127,189	

Table 30 Forecasted GS > 50 kW

4.5 LARGE USE

Incorporating the forecast economic variables, 10-year weather normal cooling degree days, and calendar variables, the following weather corrected consumption and forecast values are calculated:

Large Use						
Year	Actual	Persisting CDM	Actual No CDM	Normalized No CDM	Persisting CDM	Normalized
	A	B	C = A + B	D	E = B	F = D - E
2008	352,691,146	0	352,691,146	348,587,092	0	348,587,092
2009	271,865,804	0	271,865,804	289,134,406	0	289,134,406
2010	295,089,951	0	295,089,951	293,015,435	0	293,015,435
2011	320,621,511	593,780	321,215,292	307,721,961	593,780	307,128,181
2012	304,746,367	2,605,830	307,352,197	303,180,997	2,605,830	300,575,167
2013	295,185,914	6,090,078	301,275,992	315,460,729	6,090,078	309,370,650
2014	304,014,292	8,881,059	312,895,351	313,614,597	8,881,059	304,733,538
2015	301,194,469	10,107,708	311,302,178	307,997,644	10,107,708	297,889,936
2016	318,162,193	10,551,815	328,714,008	310,433,017	10,551,815	299,881,202
2017	299,472,217	10,577,319	310,049,537	323,305,579	10,577,319	312,728,259
2018				332,124,224	10,577,319	321,546,905
2019				331,687,712	10,577,319	321,110,393
2020				328,404,458	10,577,319	317,827,139

Table 31 Actual vs Normalized Large Use

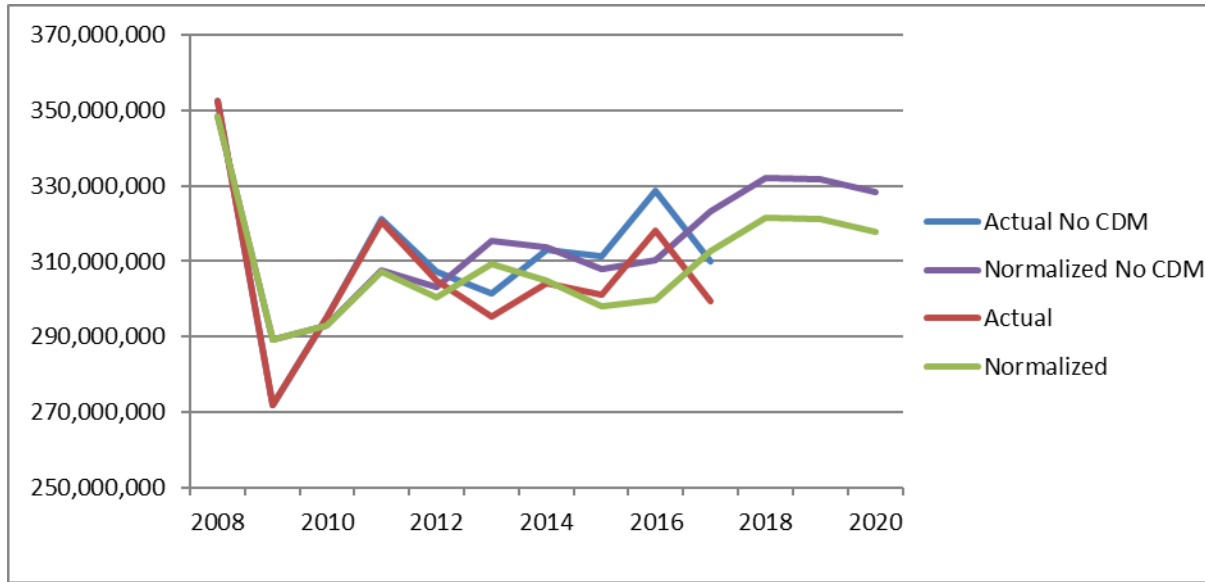


Figure 10 Actual vs Normalized Large Use

While Large Use customer counts are not a component of the regression model, they are forecasted for the purpose of rate setting. Throughout the entire 10-year historical time horizon, the Large Use rate class has had 6 customers, and this is expected to continue into 2020.

In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The trend of the 3-year moving average of the kW/kWh ratio from 2008-2017 is used to forecast kW for all future years. The kW and kWh figures include CDM to determine with kW/kWh ratio in absence of CDM activities. CDM is removed from the final kW forecast.

Large Use

	Year	kWh	kW	Ratio	Ratio Moving Average
		A	B	C = B / A	
Actual With CDM	2008	352,691,146	676,823	0.001919	
	2009	271,865,804	550,085	0.002023	
	2010	295,089,951	579,240	0.001963	0.001968
	2011	321,215,292	598,765	0.001864	0.001950
	2012	307,352,197	567,183	0.001845	0.001891
	2013	301,275,992	558,263	0.001853	0.001854
	2014	312,895,351	558,632	0.001785	0.001828
	2015	311,302,178	560,709	0.001801	0.001813
	2016	328,714,008	577,995	0.001758	0.001782
	2017	310,049,537	549,512	0.001772	0.001777

		kWh Normalized D	kW Normalized F = D * E	Ratio Trend E
Forecast	2017	323,305,579	567,818	0.001756
	2018	332,124,224	573,660	0.001727
	2019	331,687,712	563,273	0.001698
	2020	328,404,458	548,160	0.001669
	2017	312,728,259	566,370	
Forecast	2018	321,546,905	572,212	
CDM	2019	321,110,393	561,825	
Removed	2020	317,827,139	546,712	

Table 32 Forecasted GS > 50 kW

4.6 LARGE USE 3TS

The Large Use 3TS rate class is not weather sensitive, and does not exhibit sensitivity to other economic variables. Due to the loss of a customer, usage prior to 2012 has been adjusted to exclude the lost customer. Excluding that customer, and after adding back persisting CDM, the Large Use 3TS energy consumption has varied in a range of 254GWh - 287GWh from 2008-2017 with no clear trend. The forecast was calculated as an average of the 2008-2017 consumption, having adjusted for CDM.

Large Use - 3TS							
Year	Actual Adjusted A	Persisting CDM B	Actual No CDM C = A + B	Normalized No CDM D	Relative Persisting CDM E = B	Normalized F = D - E	
2008	264,386,629	0	264,386,629	273,040,565	0	273,040,565	
2009	253,823,156	0	253,823,156	273,040,565	0	273,040,565	
2010	287,197,656	0	287,197,656	273,040,565	0	273,040,565	
2011	265,542,338	0	265,542,338	273,040,565	0	273,040,565	
2012	280,858,035	3,232,822	284,090,857	273,040,565	3,232,822	269,807,743	
2013	265,541,554	9,075,529	274,617,083	273,040,565	9,075,529	263,965,036	
2014	266,219,490	13,403,464	279,622,953	273,040,565	13,403,464	259,637,101	
2015	241,052,439	15,576,071	256,628,509	273,040,565	15,576,071	257,464,494	
2016	264,027,087	17,374,995	281,402,082	273,040,565	17,374,995	255,665,570	
2017	252,589,950	21,850,499	274,440,449	273,040,565	21,850,499	251,190,065	
2018				273,040,565	21,850,499	251,190,065	
2019				273,040,565	21,850,499	251,190,065	
2020				273,040,565	21,850,499	251,190,065	

Table 33 Actual vs Forecast Large Use 3TS kWh



Figure 11 Actual vs Normalized Large Use 3TS kWh

Large Use 3 customer counts are forecasted for the purpose of rate setting. The Large Use 3TS rate class had 3 customers until 2012, and from 2013 to 2017 has had 2 customers. The two remaining customers are forecasted to persist into 2020.

In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The trend of the 3-year moving average of the kW/kWh ratio from 2013-2017 is used to forecast kW for all future years. A shorter time frame is used because the ratio was materially different from 2008 to 2010. The kW and kWh figures include CDM to determine with kW/kWh ratio in absence of CDM activities. CDM is removed from the final kW forecast.

Large Use 3TS

	Year	kWh	kW	Ratio	Ratio Moving Average
		A	B	C = B / A	
Actual With CDM	2008	264,386,629	751,966	0.002844	
	2009	253,823,156	739,223	0.002912	
	2010	287,197,656	698,063	0.002431	0.002729
	2011	265,542,338	574,892	0.002165	0.002503
	2012	284,090,857	559,597	0.001970	0.002188
	2013	274,617,083	537,367	0.001957	0.002031
	2014	279,622,953	526,592	0.001883	0.001937
	2015	256,628,509	489,968	0.001909	0.001916
	2016	281,402,082	518,603	0.001843	0.001878
	2017	274,440,449	499,146	0.001819	0.001857

		kWh Normalized D	kW Normalized F = D * E	Ratio Trend E
Forecast	2017	273,040,565	503,148	0.001843
	2018	273,040,565	492,084	0.001802
	2019	273,040,565	481,021	0.001762
	2020	273,040,565	469,957	0.001721
Forecast CDM Removed	2017	251,190,065	499,655	
	2018	251,190,065	488,592	
	2019	251,190,065	477,529	
	2020	251,190,065	466,465	

Table 34 Forecasted Large Use 3TS kW

4.7 LARGE USE - FORD ANNEX

The Large Use Ford Annex rate class is not weather sensitive, and does not exhibit sensitivity to other economic variables, but exhibits a declining consumption trend over the past 10 years. The forecast was calculated with the straight-line trend from 2008 to 2017 continuing to 2020, adjusted for CDM.

Year	Large Use - FA					
	Actual	Adjusted ve Persisting CDM A	Persisting CDM B	Actual No CDM C = A + B	Normalized No CDM tive Persisting CDM D	Normalized E = B F = D - E
2008	55,619,547		0	55,619,547	52,524,926	52,524,926
2009	50,208,449		0	50,208,449	51,475,877	51,475,877
2010	54,756,020		0	54,756,020	50,426,829	50,426,829
2011	41,936,988		0	41,936,988	49,377,781	49,377,781
2012	45,336,839		27,494	45,364,333	48,328,733	48,301,239
2013	48,126,675		54,695	48,181,370	47,279,685	47,224,990
2014	47,308,909		54,655	47,363,563	46,230,637	46,175,982
2015	47,202,926		54,614	47,257,539	45,181,589	45,126,975
2016	44,370,767		54,614	44,425,380	44,132,540	44,077,927
2017	42,875,821		53,079	42,928,900	43,083,492	43,030,414
2018					42,034,444	41,981,366
2019					40,985,396	40,932,318
2020					39,936,348	39,883,269

Table 35 Actual vs Forecast Large Use Ford Annex kWh



Figure 12 Actual vs Normalized Large Use Ford Annex kWh

The Large Use Ford Annex has one customer, and is expected to persist with one customer into 2020.

In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The trend of the 3-year moving average of the kW/kWh ratio from 2008-2017 is used to forecast kW for all future years. The kW and kWh figures include CDM to determine with kW/kWh ratio in absence of CDM activities. CDM is removed from the final kW forecast.

Large Use FA

	Year	kWh	kW	Ratio	Ratio Moving Average
		A	B	C = B / A	
Actual With CDM	2008	55,619,547	113,540	0.002041	
	2009	50,208,449	95,070	0.001894	
	2010	54,756,020	99,529	0.001818	0.001918
	2011	41,936,988	77,155	0.001840	0.001850
	2012	45,364,333	81,691	0.001801	0.001819
	2013	48,181,370	85,554	0.001776	0.001805
	2014	47,363,563	86,737	0.001831	0.001803
	2015	47,257,539	82,848	0.001753	0.001787
	2016	44,425,380	74,825	0.001684	0.001756
	2017	42,928,900	70,877	0.001651	0.001696

		kWh Normalized D	kW Normalized F = D * E	Ratio Trend E
Forecast	2017	43,083,492	73,950	0.001716
	2018	42,034,444	71,036	0.001690
	2019	40,985,396	68,178	0.001663
	2020	39,936,348	65,375	0.001637
	2017	43,030,414	73,947	
Forecast	2018	41,981,366	71,033	
CDM	2019	40,932,318	68,175	
Removed	2020	39,883,269	65,372	

Table 36 Forecasted Large Use Ford Annex kW

5 STREET LIGHT, SENTINEL AND USL FORECAST

The Street Lighting, Sentinel, and Unmetered Scattered Load Classes are non-weather sensitive classes. Connection counts are forecasted on the geometric mean growth rate from 2008 to 2017. Energy is forecasted on the basis of average energy per device or connection and connection growth.

EnWin completed the conversion to LED streetlights in the first quarter of 2017. Forecast average consumption per lamp is based on average consumption from April 2017 to March 2018 to take into account a full year of consumption with LED lamps.

The tables below summarize the historic connection counts and annual energy consumption for all classes and the anticipated consumption in the forecast period.

Street Light Year	Lamps / Devices	Percent of Prior Year
2008	23,403	
2009	23,421	100.08%
2010	23,436	100.07%
2011	23,411	99.89%
2012	23,358	99.77%
2013	23,386	100.12%
2014	23,460	100.32%
2015	23,495	100.15%
2016	23,518	100.09%
2017	24,144	102.66%
2018	24,158	100.06%
2019	24,173	100.06%
2020	24,188	100.06%

Table 37 Forecasted Street Light lamps (devices)

EnWin captured the location of all street lights as part of EnWin's LED-conversion project. The 2017 connection count includes street lights that have been previously served by EnWin but not included in the count in previous years. The increase from 2016 to 2017 is not the result of an increase in connections that can be expected to continue into the future so 2017 has been excluded from the geometric mean growth rate above.

Sentinel Light	Year	Connections	Percent of Prior Year
	2008	703	
	2009	669	95.09%
	2010	667	99.70%
	2011	662	99.32%
	2012	661	99.77%
	2013	641	97.09%
	2014	631	98.44%
	2015	616	97.54%
	2016	602	97.77%
	2017	554	92.07%
	2018	540	97.39%
	2019	526	97.39%
	2020	512	97.39%

Table 38 Forecasted Sentinel connections

USL	Year	Connections	Percent of Prior Year
	2008	757	
	2009	763	100.79%
	2010	770	100.95%
	2011	793	102.99%
	2012	794	100.16%
	2013	790	99.43%
	2014	783	99.18%
	2015	780	99.62%
	2016	781	100.13%
	2017	769	98.46%
	2018	727	99.60%
	2019	724	99.60%
	2020	721	99.60%

Table 39 Forecasted USL connections

The number of USL connections at the end of 2017 was significantly lower than at any point in prior years. The geometric mean growth rate was determined using the December 2017 count (730) and it is applied to the number of customers in December 2017 to

forecast 2018 customer count. The growth rate applied is more reflective of the number of customers expected in the test period.

Year	Street Light			Normal Forecast
	Actual	Lamps / Devices	Average per Connection	
2008	17,016,320	23,403	727	
2009	16,930,328	23,421	723	
2010	16,997,069	23,436	725	
2011	17,061,701	23,411	729	
2012	17,377,866	23,358	744	
2013	17,283,102	23,386	739	
2014	17,360,921	23,460	740	
2015	17,162,408	23,495	730	
2016	14,655,212	23,518	623	14,655,212
2017	6,962,744	24,144	288	6,962,744
2018		24,158	265	6,411,263
2019		24,173	265	6,415,192
2020		24,188	265	6,419,124

Table 40 Forecasted Street Light kWh

The average Street Light consumption per customer forecast is based on actual consumption from April 2017 to March 2018 (6,408,317kWh), the first full year after LED conversion.

Year	Sentinel			Normal Forecast
	Actual	Connections	Average per Connection	
2008	1,037,845	703	1,476	1,037,845
2009	992,473	669	1,485	992,473
2010	953,517	667	1,431	953,517
2011	908,473	662	1,372	908,473
2012	908,923	661	1,376	908,923
2013	887,748	641	1,384	887,748
2014	924,204	631	1,464	924,204
2015	873,074	616	1,418	873,074
2016	851,685	602	1,415	851,685
2017	795,951	554	1,436	795,951
2018		540	1,436	775,200
2019		526	1,436	754,991
2020		512	1,436	735,308

Table 41 Forecasted Sentinel kWh

USL				
Year	Actual	Connections	Average per Connection	Normal Forecast
2008	4,241,921	757	5,607	4,241,921
2009	4,214,867	763	5,528	4,214,867
2010	3,980,560	770	5,171	3,980,560
2011	3,657,260	793	4,613	3,657,260
2012	3,485,918	794	4,390	3,485,918
2013	3,254,726	790	4,123	3,254,726
2014	2,436,825	783	3,112	2,436,825
2015	2,410,786	780	3,091	2,410,786
2016	2,415,557	781	3,093	2,415,557
2017	2,368,616	769	3,080	2,368,616
2018		727	3,080	2,239,601
2019		724	3,080	2,230,745
2020		721	3,080	2,221,924

Table 42 Forecasted USL kWh

There is no clear trend for the Street Light and Sentinel kW to kWh ratios so an average is used.

Street Light				
Year	kWh	kW	Ratio	Ratio Moving Average
	A	B	C = B / A	
2008	17,016,320	48,715	0.002863	
2009	16,930,328	48,739	0.002879	
2010	16,997,069	48,810	0.002872	0.002871
2011	17,061,701	49,250	0.002887	0.002879
2012	17,377,866	49,566	0.002852	0.002870
2013	17,283,102	49,480	0.002863	0.002867
2014	17,360,921	49,412	0.002846	0.002854
2015	17,162,408	49,145	0.002864	0.002858
2016	14,655,212	43,203	0.002948	0.002886
2017	6,962,744	19,819	0.002846	0.002886
	kWh Normalized D	kW Normalized F = D * E	Ratio Trend E	
2017	6,962,744	19,992	0.002871	
2018	6,411,263	18,409	0.002871	
2019	6,415,192	18,420	0.002871	
2020	6,419,124	18,431	0.002871	

Table 43 Forecasted Street Light kW

Sentinel

Year	kWh	kW	Ratio	Ratio Moving Average
	A	B	C = B / A	
2008	1,037,845	2,843	0.002739	
2009	992,473	2,749	0.002770	
2010	953,517	2,624	0.002752	0.002754
2011	908,473	2,566	0.002824	0.002782
2012	908,923	2,496	0.002746	0.002774
2013	887,748	2,439	0.002747	0.002772
2014	924,204	2,542	0.002750	0.002748
2015	873,074	2,448	0.002804	0.002767
2016	851,685	2,365	0.002776	0.002777
2017	795,951	2,230	0.002801	0.002794
	kWh Normalized	kW Normalized	Ratio Trend	
	D	F = D * E	E	
2017	795,951	2,206	0.002771	
2018	775,200	2,148	0.002771	
2019	754,991	2,092	0.002771	
2020	735,308	2,038	0.002771	

Table 44 Forecasted Sentinel kW

6 CDM ADJUSTMENT TO LOAD FORECAST

The current Chapter 2 OEB Minimum Filing requirements, consistent with the Board's CDM Guideline EB-2012-0003, expects the distributor to integrate an adjustment into its load forecast that takes into account the six-year (2015-2020) targets for kWh and kW reductions.

The filing requirements note that the distributors license condition targets and the LRAMVA balances are based on the IESO targets, which are annualized. It is recognized that the CDM programs in a year are not in effect for the full year, although persistence of previous year's programs will be. Therefore, the actual impact on the load forecast for the first year of the program should not be the full annualized amount. For this reason, the amount that will be used for the LRAMVA will be related to, but not necessarily equal to, the CDM adjustment for the load forecast.

The following is the proposed forecast of the CDM kWh load forecast adjustment and final proposed load forecast, based on a half-year of savings from 2017, a full year of savings from 2018 and 2019, and a half year of savings from 2020. Forecast first-year and persisting savings by class were provided by EnWin and are detailed in the 'CDM' tab.

For 2020 LRAMVA Elenchus reasons that the effects of 2017-2020 IESO CDM programs should be included in the LRAMVA calculation. In particular, full years of 2017-2020 are included.

2017-2020 Estimated and Forecasted Savings by Rate Class						
Rate Class	2017 (50%)	2018	2019	2020 (50%)	CDM Adjustment	LRAMVA Target
Residential	7,402,891	4,788,304	4,505,701	2,297,908	18,994,804	28,695,602
GS < 50	779,615	2,682,669	1,319,591	670,106	5,451,981	6,901,702
GS > 50	5,582,417	25,754,787	63,221,398	4,180,419	98,739,021	108,501,857
Intermediate	184,171	14,305,491	93,456	47,402	14,630,520	14,862,093
Large Use	202,222	5,062,469	2,486,404	28,212,503	35,963,599	64,378,324
Large Use 3TS	2,876,533	5,946,943	3,313,495	1,497,382	13,634,353	18,008,267
Large Use FA	-	28,108	12,945	6,566	47,618	54,184
TOTAL	17,027,849	58,568,771	74,952,989	36,912,285	187,461,895	241,402,029

Table 45 Proposed CDM and LRAMVA kWh Adjustments

The proposed forecast of the CDM kW load forecast adjustment and final proposed load forecast, based on a half-year of savings from 2017, a full year of savings from 2018 and 2019, and a half year of savings from 2020 is presented below. Forecast first-year and persisting savings by class were provided by EnWin.

2017-2020 Estimated and Forecasted Savings by Rate Class						
Rate Class	2017 (50%)	2018	2019	2020 (50%)	CDM Adjustment	LRAMVA Target
GS > 50	1,295	3,320	16,377	1,087	22,079	24,461
Intermediate	30.1	1,748	10	4.8	1,792.5	1,827.4
Large Use	46	525	482	3,320	4,373	7,739
Large Use 3TS	662	922	843	413	2,841	3,916
Large Use FA	-	1.5	1.4	0.7	3.6	4.3
TOTAL	2,033	6,517	17,713	4,826	31,089	37,948

Table 46 Proposed CDM and LRAMVA kW Adjustments



ATTACHMENT 3 – B

OEB Appendix 2-IB: Customer, Connections, Load Forecast
and Revenues Data and Analysis

Appendix 2-IB Customer, Connections, Load Forecast and Revenues Data and Analysis

This sheet is to be filled in accordance with the instructions documented in section 2.3.2 of Chapter 2 of the Filing Requirements for Distribution Rate Applications, in terms of one set of tables per customer class.

Color coding for Cells: Data input Drop-down List
 No data entry required Blank or calculated value

Distribution System (Total)

	Calendar Year (for 2020 Cost of Service)		Consumption (kWh) ⁽³⁾			
				Actual (Weather actual)	Weather- normalized	Weather- normalized
Historical	2009		Actual	2,381,532,329	2,454,693,020	Board Approved 2,596,512,398
Historical	2010		Actual	2,521,864,890	2,500,489,529	
Historical	2011		Actual	2,500,918,608	2,479,507,609	
Historical	2012		Actual	2,480,837,615	2,477,871,786	
Historical	2013		Actual	2,450,616,245	2,451,029,476	
Historical	2014		Actual	2,463,137,594	2,441,447,556	
Historical	2015		Actual	2,397,631,611	2,405,193,061	
Historical	2016		Actual	2,471,215,846	2,425,111,572	
Historical	2017		Actual	2,367,940,087	2,409,664,890	
Historical	2018		Forecast		2,373,403,713	
Bridge Year	2019		Forecast		2,307,487,797	
Test Year	2020		Forecast		2,230,875,607	

Variance Analysis	Year	Year-over-year		Versus Board- approved
	2009			
	2010	5.9%	1.9%	
	2011	-0.8%	-0.8%	
	2012	-0.8%	-0.1%	
	2013	-1.2%	-1.1%	
	2014	0.5%	-0.4%	
	2015	-2.7%	-1.5%	
	2016	3.1%	0.8%	
	2017	-4.2%	-0.6%	
	2018		-1.5%	
	2019		-2.8%	
	2020		-3.3%	
	Geometric Mean	-0.1%	-1.0%	

Customer Class Analysis (one for each Customer Class, excluding MicroFIT and Standby)

1 Customer Class: Residential Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kWh

	Calendar Year (for 2020 Cost of Service)	Customers				Consumption (kWh) ⁽³⁾				Consumption (kWh) per Customer			
							Actual (Weather actual)	Weather- normalized	Weather- normalized		Actual (Weather actual)	Weather- normalized	Weather- normalized
Historical	2009	Actual	76,419	Board Approved	76,317	Actual	604,635,109	633,139,855	Board Approved 641,214,701	Actual	7,912	8,285	Board Approved 8,402
Historical	2010	Actual	76,605			Actual	647,490,325	632,779,819		Actual	8,452	8,260	
Historical	2011	Actual	76,747			Actual	636,991,611	627,174,930		Actual	8,300	8,172	
Historical	2012	Actual	77,099			Actual	631,309,636	623,752,589		Actual	8,188	8,090	
Historical	2013	Actual	77,452			Actual	617,011,741	615,747,794		Actual	7,966	7,950	
Historical	2014	Actual	77,950			Actual	598,157,531	609,647,386		Actual	7,674	7,821	
Historical	2015	Actual	78,321			Actual	593,984,431	605,580,784		Actual	7,584	7,732	
Historical	2016	Actual	78,812			Actual	619,568,738	600,056,235		Actual	7,861	7,614	

Historical	2017	Actual	79,325		Actual	583,858,255	584,339,743		Actual	7,360	7,366	
Historical	2018	Forecast	79,646		Forecast		570,743,706		Forecast		7,166	
Bridge Year	2019	Forecast	79,969		Forecast		562,297,710		Forecast		7,031	
Test Year	2020	Forecast	80,293		Forecast		555,916,913		Forecast		6,924	

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year	Test Year Versus Board-approved
	2009			2009			2009		
	2010	0.2%		2010	7.1%	-0.1%	2010	6.8%	-0.3%
	2011	0.2%		2011	-1.6%	-0.9%	2011	-1.8%	-1.1%
	2012	0.5%		2012	-0.9%	-0.5%	2012	-1.3%	-1.0%
	2013	0.5%		2013	-2.3%	-1.3%	2013	-2.7%	-1.7%
	2014	0.6%		2014	-3.1%	-1.0%	2014	-3.7%	-1.6%
	2015	0.5%		2015	-0.7%	-0.7%	2015	-1.2%	-1.1%
	2016	0.6%		2016	4.3%	-0.9%	2016	3.7%	-1.5%
	2017	0.7%		2017	-5.8%	-2.6%	2017	-6.4%	-3.2%
	2018	0.4%		2018		-2.3%	2018		-2.7%
	2019	0.4%		2019		-1.5%	2019		-1.9%
	2020	0.4%	5.21%	2020		-1.1%	2020		-1.5%
	Geometric Mean	0.5%		Geometric Mean	-0.5%	-1.3%	Geometric Mean	-1.0%	-1.8%

	Calendar Year (for 2020 Cost of Service)	Revenues		
Historical	2009	Actual	\$ 21,658,067	Board Approved \$ 22,100,611
Historical	2010	Actual	\$ 22,978,356	
Historical	2011	Actual	\$ 22,810,643	
Historical	2012	Actual	\$ 23,603,838	
Historical	2013	Actual	\$ 23,260,221	
Historical	2014	Actual	\$ 27,085,197	
Historical	2015	Actual	\$ 23,014,728	
Historical	2016	Actual	\$ 24,593,913	
Historical	2017	Actual	\$ 24,582,093	
Historical	2018	Forecast	\$ 25,444,472	
Bridge Year (Forecast)	2019	Forecast	\$ 25,597,086	
Test Year (Forecast)	2020	Forecast	\$ 27,177,843	

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved
	2009		
	2010	6.1%	
	2011	-0.7%	
	2012	3.5%	
	2013	-1.5%	
	2014	16.4%	
	2015	-15.0%	
	2016	6.9%	
	2017	0.0%	
	2018	3.5%	
	2019	0.6%	
	2020	6.2%	22.97%
	Geometric Mean	2.3%	

2 Customer Class: **GS < 50 kW** Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kWh

	Calendar Year (for 2020 Cost of Service)	Customers			Consumption (kWh) ⁽³⁾			Consumption (kWh) per Customer		
		Actual	Weather-normalized	Weather-normalized	Actual (Weather actual)	Weather-normalized	Weather-normalized	Actual (Weather actual)	Weather-normalized	Weather-normalized
Historical	2009	Actual	6,970	Board Approved 7,013	Actual	220,940,436	227,638,352	Actual	31,698	32,659
Historical	2010	Actual	6,948		Actual	223,232,846	221,727,261	Actual	32,129	31,912
Historical	2011	Actual	6,929		Actual	218,915,072	217,211,191	Actual	31,594	31,348
Historical	2012	Actual	6,922		Actual	216,236,229	215,585,910	Actual	31,239	31,145
Historical	2013	Actual	6,946		Actual	217,023,476	212,592,549	Actual	31,247	30,609
Historical	2014	Actual	7,014		Actual	212,401,262	210,177,338	Actual	30,282	29,965
Historical	2015	Actual	7,055		Actual	207,733,155	207,195,683	Actual	29,447	29,371
Historical	2016	Actual	7,080		Actual	208,239,182	205,569,756	Actual	29,414	29,037
Historical	2017	Actual	7,109		Actual	199,190,043	205,390,646	Actual	28,020	28,893
Historical	2018	Forecast	7,116		Forecast		201,833,099	Forecast		28,363
Bridge Year	2019	Forecast	7,124		Forecast		198,127,913	Forecast		27,813
Test Year	2020	Forecast	7,131		Forecast		195,457,487	Forecast		27,410

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	-0.3%		2010	1.0%	-2.6%	2010	1.4%	-2.3%
	2011	-0.3%		2011	-1.9%	-2.0%	2011	-1.7%	-1.8%
	2012	-0.1%		2012	-1.2%	-0.7%	2012	-1.1%	-0.6%
	2013	0.3%		2013	0.4%	-1.4%	2013	0.0%	-1.7%
	2014	1.0%		2014	-2.1%	-1.1%	2014	-3.1%	-2.1%
	2015	0.6%		2015	-2.2%	-1.4%	2015	-2.8%	-2.0%
	2016	0.4%		2016	0.2%	-0.8%	2016	-0.1%	-1.1%
	2017	0.4%		2017	-4.3%	-0.1%	2017	-4.7%	-0.5%
	2018	0.1%		2018		-1.7%	2018		-1.8%
	2019	0.1%		2019		-1.8%	2019		-1.9%
	2020	0.1%	1.68%	2020		-1.3%	2020		-1.5%
	Geometric Mean	0.2%		Geometric Mean	-1.5%	-1.5%	Geometric Mean	-1.5%	-1.7%

	Calendar Year (for 2020 Cost of Service)	Revenues			
Historical	2009	Actual	\$ 5,636,594	Board Approved	\$ 5,973,319
Historical	2010	Actual	\$ 5,713,015		
Historical	2011	Actual	\$ 5,640,824		
Historical	2012	Actual	\$ 5,812,389		
Historical	2013	Actual	\$ 5,857,705		
Historical	2014	Actual	\$ 6,117,550		
Historical	2015	Actual	\$ 6,144,116		
Historical	2016	Actual	\$ 6,348,450		
Historical	2017	Actual	\$ 5,988,260		
Historical	2018	Forecast	\$ 6,281,334		
Bridge Year (Forecast)	2019	Forecast	\$ 6,159,866		
Test Year (Forecast)	2020	Forecast	\$ 6,029,702		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved
	2009		
	2010	1.4%	
	2011	-1.3%	
	2012	3.0%	
	2013	0.8%	
	2014	4.4%	
	2015	0.4%	
	2016	3.3%	
	2017	-5.7%	
	2018	4.9%	
	2019	-1.9%	
	2020	-2.1%	0.9%
	Geometric Mean	0.7%	

3 Customer Class: GS>50 & Int Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kW

	Calendar Year (for 2020 Cost of Service)	Customers				Consumption (kWh) ⁽³⁾				Consumption (kWh) per Customer			
				Board Approved		Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized	Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized
Historical	2009	Actual	1,179			Actual	957,921,707	978,611,134		Actual	812,831	830,387	
Historical	2010	Actual	1,192			Actual	992,166,947	989,082,193	1,002,210,628	Actual	832,704	830,115	840,781
Historical	2011	Actual	1,198			Actual	995,283,654	988,886,548		Actual	830,788	833,795	
Historical	2012	Actual	1,182			Actual	980,577,801	989,990,538		Actual	829,417	837,378	
Historical	2013	Actual	1,182			Actual	986,301,309	978,224,677		Actual	834,258	827,426	
Historical	2014	Actual	1,212			Actual	1,014,314,159	982,638,945		Actual	836,720	810,591	
Historical	2015	Actual	1,232			Actual	986,017,923	985,825,026		Actual	800,502	800,345	
Historical	2016	Actual	1,248			Actual	998,925,425	993,284,071		Actual	800,421	795,901	
Historical	2017	Actual	1,254			Actual	979,826,490	1,001,613,159		Actual	781,205	798,575	
Historical	2018	Forecast	1,261			Forecast		985,280,024		Forecast		781,540	
Bridge Year	2019	Forecast	1,267			Forecast		941,451,167		Forecast		742,959	
Test Year	2020	Forecast	1,274			Forecast		910,869,945		Forecast		715,153	

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	1.1%		2010	3.6%	1.1%	2010	2.4%	0.0%

	2011	0.5%		2011	0.3%	1.0%		2011	-0.2%	0.4%	
	2012	-1.3%		2012	-1.5%	-0.9%		2012	-0.2%	0.4%	
	2013	0.0%		2013	0.6%	-1.2%		2013	0.6%	-1.2%	
	2014	2.5%		2014	2.8%	0.5%		2014	0.3%	-2.0%	
	2015	1.6%		2015	-2.8%	0.3%		2015	-4.3%	-1.3%	
	2016	1.3%		2016	1.3%	0.8%		2016	0.0%	-0.6%	
	2017	0.5%		2017	-1.9%	0.8%		2017	-2.4%	0.3%	
	2018	0.5%		2018		-1.6%		2018		-2.1%	
	2019	0.5%		2019		-4.4%		2019		-4.9%	
	2020	0.5%	6.9%	2020		-3.2%	-9.1%	2020		-3.7%	-14.9%
	Geometric Mean	0.8%		Geometric Mean	0.3%	-0.7%		Geometric Mean	-0.6%	-1.5%	

	Calendar Year (for 2020 Cost of Service)	Revenues				Demand (kW)				Demand (kW) per Customer			
		Actual		Board Approved		Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized	Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized
Historical	2009	\$ 12,508,645		\$ 13,092,640		2,541,458	2,596,487	2,573,163		2,157	2,203	2,159	
Historical	2010	\$ 12,732,837				2,542,586	2,534,696			2,134	2,127		
Historical	2011	\$ 12,596,663				2,566,508	2,575,780			2,142	2,150		
Historical	2012	\$ 12,805,686				2,555,288	2,579,732			2,161	2,182		
Historical	2013	\$ 13,067,815				2,685,429	2,663,479			2,271	2,253		
Historical	2014	\$ 13,157,973				2,499,080	2,421,496			2,062	1,998		
Historical	2015	\$ 12,902,346				2,541,606	2,541,112			2,063	2,063		
Historical	2016	\$ 14,271,991				2,567,200	2,552,803			2,057	2,046		
Historical	2017	\$ 13,468,224				2,526,207	2,581,929			2,014	2,059		
Historical	2018	\$ 13,897,254					2,597,401				2,060		
Bridge Year (Forecast)	2019	\$ 14,446,814					2,582,460				2,038		
Test Year (Forecast)	2020	\$ 14,500,039					2,562,347				2,012		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	1.8%		2010	0.0%	-2.4%	2010	-1.0%	-3.4%
	2011	-1.1%		2011	0.9%	1.6%	2011	0.4%	1.1%
	2012	1.7%		2012	-0.4%	0.2%	2012	0.9%	1.5%
	2013	2.0%		2013	5.1%	3.2%	2013	5.1%	3.2%
	2014	0.7%		2014	-6.9%	-9.1%	2014	-9.2%	-11.3%
	2015	-1.9%		2015	1.7%	4.9%	2015	0.1%	3.3%
	2016	10.6%		2016	1.0%	0.5%	2016	-0.3%	-0.8%
	2017	-5.6%		2017	-1.6%	1.1%	2017	-2.1%	0.6%
	2018	3.2%		2018		0.6%	2018		0.1%
	2019	4.0%		2019		-0.6%	2019		-1.1%
	2020	0.4%	10.7%	2020		-0.8%	2020		-1.3%
	Geometric Mean	2.0%		Geometric Mean	-0.1%	-0.1%	Geometric Mean	-1.0%	-0.9%

4 Customer Class: **Large Use - Regular**

Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kW

	Calendar Year (for 2020 Cost of Service)	Customers				Consumption (kWh) ⁽³⁾				Consumption (kWh) per Customer			
		Actual		Board Approved		Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized	Actual (Weather actual)	Weather- normalized	Board Approved	Weather- normalized
Historical	2009	6		6		271,865,804	289,134,406	277,467,527		45,310,967	48,189,068	46,244,588	
Historical	2010	6				295,089,951	293,015,435			49,181,659	48,835,906		
Historical	2011	6				320,621,511	307,128,181			53,436,919	51,188,030		
Historical	2012	6				304,746,367	300,575,167			50,791,061	50,095,861		
Historical	2013	6				295,185,914	309,370,650			49,197,652	51,561,775		
Historical	2014	6				304,014,292	304,733,538			50,669,049	50,788,923		
Historical	2015	6				301,194,469	297,889,936			50,199,078	49,648,323		
Historical	2016	6				318,162,193	299,881,202			53,027,032	49,980,200		
Historical	2017	6				299,472,217	312,728,259			49,912,036	52,121,377		
Historical	2018	6					318,813,448				53,135,575		
Bridge Year	2019	6					314,602,500				52,433,750		
Test Year	2020	6					281,863,540				46,977,257		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	0.0%		2010	8.5%	1.3%	2010	8.5%	1.3%
	2011	0.0%		2011	8.7%	4.8%	2011	8.7%	4.8%
	2012	0.0%		2012	-5.0%	-2.1%	2012	-5.0%	-2.1%
	2013	0.0%		2013	-3.1%	2.9%	2013	-3.1%	2.9%
	2014	0.0%		2014	3.0%	-1.5%	2014	3.0%	-1.5%

	2015	0.0%		2015	-0.9%	-2.2%		2015	-0.9%	-2.2%	
	2016	0.0%		2016	5.6%	0.7%		2016	5.6%	0.7%	
	2017	0.0%		2017	-5.9%	4.3%		2017	-5.9%	4.3%	
	2018	0.0%		2018		1.9%		2018		1.9%	
	2019	0.0%		2019		-1.3%		2019		-1.3%	
	2020	0.0%	0.0%	2020		-10.4%	1.6%	2020		-10.4%	1.6%
	Geometric Mean	0.0%		Geometric Mean	1.4%	-0.3%		Geometric Mean	1.4%	-0.3%	

	Calendar Year	Revenues					Demand (kW)					Demand (kW) per Customer					
	(for 2020 Cost of Service)							Actual (Weather actual)	Weather-normalized	Weather-normalized			Actual (Weather actual)	Weather-normalized	Weather-normalized		
Historical	2009	Actual	\$	1,309,537	Board Approved	\$	1,366,970	Actual	550,085	585,026	Board Approved	539,536	Actual	91,681	97,504	Board Approved	89,923
Historical	2010	Actual	\$	1,457,154				Actual	579,240	575,168			Actual	96,540	95,861		
Historical	2011	Actual	\$	1,369,032				Actual	598,591	573,399			Actual	99,765	95,567		
Historical	2012	Actual	\$	1,410,535				Actual	566,691	558,934			Actual	94,448	93,156		
Historical	2013	Actual	\$	1,483,661				Actual	557,389	584,173			Actual	92,898	97,362		
Historical	2014	Actual	\$	1,485,772				Actual	557,415	558,734			Actual	92,903	93,122		
Historical	2015	Actual	\$	1,476,759				Actual	559,321	553,184			Actual	93,220	92,197		
Historical	2016	Actual	\$	1,670,278				Actual	576,548	543,421			Actual	96,091	90,570		
Historical	2017	Actual	\$	1,537,053				Actual	548,064	572,324			Actual	91,344	95,387		
Historical	2018	Forecast	\$	1,632,290				Forecast		571,904			Forecast		95,317		
Bridge Year (Forecast)	2019	Forecast	\$	1,705,770				Forecast		561,013			Forecast		93,502		
Test Year (Forecast)	2020	Forecast	\$	1,794,634				Forecast		542,339			Forecast		90,390		

Variance Analysis	Year	Year-over-year		Test Year Versus Board- approved		Year	Year-over-year		Test Year Versus Board- approved		Year	Year-over-year		Test Year Versus Board- approved	
	2009					2009					2009				
	2010		11.3%			2010	5.3%	-1.7%			2010	5.3%	-1.7%		
	2011		-6.0%			2011	3.3%	-0.3%			2011	3.3%	-0.3%		
	2012		3.0%			2012	-5.3%	-2.5%			2012	-5.3%	-2.5%		
	2013		5.2%			2013	-1.6%	4.5%			2013	-1.6%	4.5%		
	2014		0.1%			2014	0.0%	-4.4%			2014	0.0%	-4.4%		
	2015		-0.6%			2015	0.3%	-1.0%			2015	0.3%	-1.0%		
	2016		13.1%			2016	3.1%	-1.8%			2016	3.1%	-1.8%		
	2017		-8.0%			2017	-4.9%	5.3%			2017	-4.9%	5.3%		
	2018		6.2%			2018		-0.1%			2018		-0.1%		
	2019		4.5%			2019		-1.9%			2019		-1.9%		
	2020		5.2%	31.3%		2020		-3.3%	0.5%		2020		-3.3%	0.5%	
	Geometric Mean		3.8%			Geometric Mean	-0.1%	-0.8%			Geometric Mean	-0.1%	-0.8%		

5 Customer Class: Large Use - 3TS & FA

kW

	Calendar Year (for 2020 Cost of Service)	Customers				Consumption (kWh) ⁽³⁾				Consumption (kWh) per Customer			
						Actual (Weather actual)	Weather- normalized		Weather- normalized		Actual (Weather actual)	Weather- normalized	Weather- normalized
Historical	2009	Actual		4	Board Approved			Actual	304,031,605	304,031,605	Board Approved		414,569,383
Historical	2010	Actual		4				Actual	341,953,676	341,953,676			
Historical	2011	Actual		4				Actual	307,479,326	307,479,326			
Historical	2012	Actual		4				Actual	326,194,874	326,194,874			
Historical	2013	Actual		3				Actual	313,668,229	313,668,229			
Historical	2014	Actual		3				Actual	313,528,398	313,528,398			
Historical	2015	Actual		3				Actual	288,255,365	288,255,365			
Historical	2016	Actual		3				Actual	308,397,854	308,397,854			
Historical	2017	Actual		3				Actual	295,465,771	295,465,771			
Historical	2018	Forecast		3				Forecast		287,307,373			
Bridge Year	2019	Forecast		3				Forecast		281,607,579			
Test Year	2020	Forecast		3				Forecast		277,391,364			

Variance Analysis	Year	Year-over-year		Test Year Versus Board- approved		Year	Year-over-year		Test Year Versus Board- approved		Year	Year-over-year		Test Year Versus Board- approved	
	2009					2009					2009				
	2010		0.0%			2010	12.5%	12.5%			2010	12.5%	12.5%		
	2011		0.0%			2011	-10.1%	-10.1%			2011	-10.1%	-10.1%		
	2012		-12.5%			2012	6.1%	6.1%			2012	21.2%	21.2%		
	2013		-14.3%			2013	-3.8%	-3.8%			2013	12.2%	12.2%		
	2014		0.0%			2014	0.0%	0.0%			2014	0.0%	0.0%		
	2015		0.0%			2015	-8.1%	-8.1%			2015	-8.1%	-8.1%		
	2016		0.0%			2016	7.0%	7.0%			2016	7.0%	7.0%		
	2017		0.0%			2017	-4.2%	-4.2%			2017	-4.2%	-4.2%		
	2018		0.0%			2018		-2.8%			2018		-2.8%		
	2019		0.0%			2019		-2.0%			2019		-2.0%		

	2020	0.0%	-25.0%	2020	-1.5%	-33.1%	2020	-1.5%	-10.8%
	Geometric Mean	-2.8%		Geometric Mean	-0.4%	-0.9%	Geometric Mean	3.8%	2.0%

	Calendar Year	Revenues				Demand (kW)				Demand (kW) per Customer					
	(for 2020 Cost of Service)						Actual (Weather actual)	Weather-normalized	Weather-normalized		Actual (Weather actual)	Weather-normalized	Weather-normalized		
Historical	2009	Actual	\$ 3,569,552	Board Approved	\$ 3,523,922	Actual	834,293	834,293	Board Approved	770,839	Actual	208,573	208,573	Board Approved	192,710
Historical	2010	Actual	\$ 3,655,307			Actual	797,592	797,592			Actual	199,398	199,398		
Historical	2011	Actual	\$ 3,385,280			Actual	652,046	652,046			Actual	163,012	163,012		
Historical	2012	Actual	\$ 3,295,089			Actual	640,710	640,710			Actual	183,060	183,060		
Historical	2013	Actual	\$ 3,138,990			Actual	621,367	621,367			Actual	207,122	207,122		
Historical	2014	Actual	\$ 3,083,019			Actual	611,289	611,289			Actual	203,763	203,763		
Historical	2015	Actual	\$ 2,997,353			Actual	570,569	570,569			Actual	190,190	190,190		
Historical	2016	Actual	\$ 3,388,686			Actual	590,808	590,808			Actual	196,936	196,936		
Historical	2017	Actual	\$ 3,174,911			Actual	566,527	566,527			Actual	188,842	188,842		
Historical	2018	Forecast	\$ 3,318,199			Forecast		558,501			Forecast		186,167		
Bridge Year (Forecast)	2019	Forecast	\$ 3,285,566			Forecast		543,695			Forecast		181,232		
Test Year (Forecast)	2020	Forecast	\$ 3,032,976			Forecast		528,993			Forecast		176,331		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	2.4%		2010	-4.4%	-4.4%	2010	-4.4%	-4.4%
	2011	-7.4%		2011	-18.2%	-18.2%	2011	-18.2%	-18.2%
	2012	-2.7%		2012	-1.7%	-1.7%	2012	12.3%	12.3%
	2013	-4.7%		2013	-3.0%	-3.0%	2013	13.1%	13.1%
	2014	-1.8%		2014	-1.6%	-1.6%	2014	-1.6%	-1.6%
	2015	-2.8%		2015	-6.7%	-6.7%	2015	-6.7%	-6.7%
	2016	13.1%		2016	3.5%	3.5%	2016	3.5%	3.5%
	2017	-6.3%		2017	-4.1%	-4.1%	2017	-4.1%	-4.1%
	2018	4.5%		2018	-1.4%	-1.4%	2018	-1.4%	-1.4%
	2019	-1.0%		2019	-2.7%	-2.7%	2019	-2.7%	-2.7%
	2020	-7.7%	-13.9%	2020	-2.7%	-2.7%	2020	-2.7%	-2.7%
	Geometric Mean	-0.3%		Geometric Mean	-5.4%	-4.5%	Geometric Mean	-1.4%	-1.7%

6 Customer Class: **Unmetered Scattered Load**

Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kWh

	Calendar Year	Connections				Consumption (kWh) ⁽³⁾					Consumption (kWh) per Connection				
	(for 2020 Cost of Service)						Actual (Weather actual)	Weather-normalized	Weather-normalized			Actual (Weather actual)	Weather-normalized	Weather-normalized	
Historical	2009	Actual	763	Board Approved	893	Actual	4,214,867	4,214,867	Board Approved	4,199,811	Actual	5,528	5,528	Board Approved	4,703
Historical	2010	Actual	770			Actual	3,980,560	3,980,560			Actual	5,171	5,171		
Historical	2011	Actual	793			Actual	3,657,260	3,657,260			Actual	4,613	4,613		
Historical	2012	Actual	794			Actual	3,485,918	3,485,918			Actual	4,390	4,390		
Historical	2013	Actual	790			Actual	3,254,726	3,254,726			Actual	4,123	4,123		
Historical	2014	Actual	783			Actual	2,436,825	2,436,825			Actual	3,112	3,112		
Historical	2015	Actual	780			Actual	2,410,786	2,410,786			Actual	3,091	3,091		
Historical	2016	Actual	781			Actual	2,415,557	2,415,557			Actual	3,093	3,093		
Historical	2017	Actual	769			Actual	2,368,616	2,368,616			Actual	3,080	3,080		
Historical	2018	Forecast	727			Forecast		2,239,601			Forecast		3,080		
Bridge Year	2019	Forecast	724			Forecast		2,230,745			Forecast		3,080		
Test Year	2020	Forecast	721			Forecast		2,221,924			Forecast		3,080		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	1.0%		2010	-5.6%	-5.6%	2010	-6.4%	-6.4%
	2011	3.0%		2011	-8.1%	-8.1%	2011	-10.8%	-10.8%
	2012	0.2%		2012	-4.7%	-4.7%	2012	-4.8%	-4.8%
	2013	-0.6%		2013	-6.6%	-6.6%	2013	-6.1%	-6.1%
	2014	-0.8%		2014	-25.1%	-25.1%	2014	-24.5%	-24.5%
	2015	-0.4%		2015	-1.1%	-1.1%	2015	-0.7%	-0.7%
	2016	0.1%		2016	0.2%	0.2%	2016	0.1%	0.1%
	2017	-1.5%		2017	-1.9%	-1.9%	2017	-0.4%	-0.4%
	2018	-5.4%		2018	-5.4%	-5.4%	2018	0.0%	0.0%
	2019	-0.4%		2019	-0.4%	-0.4%	2019	0.0%	0.0%
	2020	-0.4%	-19.2%	2020	-0.4%	-0.4%	2020	0.0%	0.0%
	Geometric Mean	-0.6%		Geometric Mean	-7.9%	-6.2%	Geometric Mean	-8.0%	-5.7%

	Calendar Year (for 2020 Cost of Service)	Revenues			
Historical	2009	Actual	\$ 150,546	Board Approved	\$ 108,790
Historical	2010	Actual	\$ 93,408		
Historical	2011	Actual	\$ 99,644		
Historical	2012	Actual	\$ 99,262		
Historical	2013	Actual	\$ 97,942		
Historical	2014	Actual	\$ 100,218		
Historical	2015	Actual	\$ 106,871		
Historical	2016	Actual	\$ 90,363		
Historical	2017	Actual	\$ 97,896		
Historical	2018	Forecast	\$ 97,713		
Bridge Year (Forecast)	2019	Forecast	\$ 94,539		
Test Year (Forecast)	2020	Forecast	\$ 100,788		

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved
	2009		
	2010	-38.0%	
	2011	6.7%	
	2012	-0.4%	
	2013	-1.3%	
	2014	2.3%	
	2015	6.6%	
	2016	-15.4%	
	2017	8.3%	
	2018	-0.2%	
	2019	-3.2%	
	2020	6.6%	-7.4%
	Geometric Mean	0.1%	

7 Customer Class: **Sentinel Lighting** Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kW

	Calendar Year (for 2020 Cost of Service)	Connections				Consumption (kWh) ⁽³⁾				Consumption (kWh) per Connection			
						Actual (Weather actual)	Weather- normalized	Weather- normalized		Actual (Weather actual)	Weather- normalized	Weather- normalized	
Historical	2009	Actual	669	Board Approved	748	Actual	992,473	992,473	Board Approved	Actual	1485	1485	Board Approved
Historical	2010	Actual	667			Actual	953,517	953,517		Actual	1431	1431	
Historical	2011	Actual	662			Actual	908,473	908,473		Actual	1372	1372	
Historical	2012	Actual	661			Actual	908,923	908,923		Actual	1376	1376	
Historical	2013	Actual	641			Actual	887,748	887,748		Actual	1384	1384	
Historical	2014	Actual	631			Actual	924,204	924,204		Actual	1464	1464	
Historical	2015	Actual	616			Actual	873,074	873,074		Actual	1418	1418	
Historical	2016	Actual	602			Actual	851,685	851,685		Actual	1415	1415	
Historical	2017	Actual	554			Actual	795,951	795,951		Actual	1436	1436	
Historical	2018	Forecast	540			Forecast		775,200		Forecast		1436	
Bridge Year	2019	Forecast	526			Forecast		754,991		Forecast		1436	
Test Year	2020	Forecast	512			Forecast		735,308		Forecast		1436	

Variance Analysis	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved	Year	Year-over-year	Test Year Versus Board- approved
	2009			2009			2009		
	2010	-0.3%		2010	-3.9%	-3.9%	2010	-3.6%	-3.6%
	2011	-0.7%		2011	-4.7%	-4.7%	2011	-4.1%	-4.1%
	2012	-0.2%		2012	0.0%	0.0%	2012	0.3%	0.3%
	2013	-2.9%		2013	-2.3%	-2.3%	2013	0.6%	0.6%
	2014	-1.6%		2014	4.1%	4.1%	2014	5.8%	5.8%
	2015	-2.5%		2015	-5.5%	-5.5%	2015	-3.2%	-3.2%
	2016	-2.2%		2016	-2.4%	-2.4%	2016	-0.2%	-0.2%
	2017	-7.9%		2017	-6.5%	-6.5%	2017	1.5%	1.5%
	2018	-2.6%		2018		-2.6%	2018		0.0%
	2019	-2.6%		2019		-2.6%	2019		0.0%
	2020	-2.6%	-31.5%	2020		-2.6%	2020		0.0%
	Geometric Mean	-2.6%		Geometric Mean	-3.1%	-3.0%	Geometric Mean	-0.5%	-0.3%

	Calendar Year (for 2020 Cost of Service)	Revenues				Demand (kW)				Demand (kW) per Connection			
						Actual (Weather actual)	Weather- normalized	Weather- normalized		Actual (Weather actual)	Weather- normalized	Weather- normalized	
Historical	2009	Actual	\$ 70,747	Board Approved	\$ 75,207	Actual	2,749	2,749	Board Approved	Actual	4	4	Board Approved
Historical	2010	Actual	\$ 90,084			Actual	2,624	2,624		Actual	4	4	

Historical	2011	Actual	\$ 37,444		Actual	2,566	2,566		Actual	4	4	
Historical	2012	Actual	\$ 93,603		Actual	2,496	2,496		Actual	4	4	
Historical	2013	Actual	\$ 89,742		Actual	2,439	2,439		Actual	4	4	
Historical	2014	Actual	\$ 94,039		Actual	2,542	2,542		Actual	4	4	
Historical	2015	Actual	\$ 88,806		Actual	2,448	2,448		Actual	4	4	
Historical	2016	Actual	\$ 86,677		Actual	2,365	2,365		Actual	4	4	
Historical	2017	Actual	\$ 79,497		Actual	2,230	2,230		Actual	4	4	
Historical	2018	Forecast	\$ 82,079		Forecast		2,148		Forecast		4	
Historical	2019	Forecast	\$ 80,206		Forecast		2,092		Forecast		4	
Bridge Year (Forecast)	2020	Forecast	\$ 82,105		Forecast		2,038		Forecast		4	
Test Year (Forecast)												

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2009				2009				2009			
	2010	27.3%			2010	-4.6%	-4.6%		2010	-4.3%	-4.3%	
	2011	-58.4%			2011	-2.2%	-2.2%		2011	-1.6%	-1.6%	
	2012	150.0%			2012	-2.7%	-2.7%		2012	-2.5%	-2.5%	
	2013	-4.1%			2013	-2.3%	-2.3%		2013	0.7%	0.7%	
	2014	4.8%			2014	4.2%	4.2%		2014	5.9%	5.9%	
	2015	-5.6%			2015	-3.7%	-3.7%		2015	-1.3%	-1.3%	
	2016	-2.4%			2016	-3.4%	-3.4%		2016	-1.2%	-1.2%	
	2017	-8.3%			2017	-5.7%	-5.7%		2017	2.4%	2.4%	
	2018	3.2%			2018		-3.7%		2018		-1.1%	
	2019	-2.3%			2019		-2.6%		2019		0.0%	
	2020	2.4%		9.2%	2020		-2.6%		2020		0.0%	
	Geometric Mean	-2.7%			Geometric Mean	-2.9%	-3.0%	-21.2%	Geometric Mean	-0.3%	-0.3%	15.1%

8 Customer Class: **Street Lighting** Is the customer class billed on consumption (kWh) or demand (kW or kVA)?

kW

	Calendar Year (for 2020 Cost of Service)	Connections				Consumption (kWh) ⁽³⁾					Consumption (kWh) per Connection				
							Actual (Weather actual)	Weather- normalized	Weather- normalized			Actual (Weather actual)	Weather- normalized	Weather- normalized	
Historical	2009	Actual	23,421	Board Approved	23,413	Actual	16,930,328	16,930,328	Board Approved	16,887,318	Actual	723	723	Board Approved	721
Historical	2010	Actual	23,436			Actual	16,997,069	16,997,069			Actual	725	725		
Historical	2011	Actual	23,411			Actual	17,061,701	17,061,701			Actual	729	729		
Historical	2012	Actual	23,358			Actual	17,377,866	17,377,866			Actual	744	744		
Historical	2013	Actual	23,386			Actual	17,283,102	17,283,102			Actual	739	739		
Historical	2014	Actual	23,460			Actual	17,360,921	17,360,921			Actual	740	740		
Historical	2015	Actual	23,495			Actual	17,162,408	17,162,408			Actual	730	730		
Historical	2016	Actual	23,518			Actual	14,655,212	14,655,212			Actual	623	623		
Historical	2017	Actual	24,144			Actual	6,962,744	6,962,744			Actual	288	288		
Historical	2018	Forecast	24,158			Forecast		6,411,263			Forecast		265		
Bridge Year	2019	Forecast	24,173			Forecast		6,415,192			Forecast		265		
Test Year	2020	Forecast	24,188			Forecast		6,419,124			Forecast		265		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2009				2009				2009			
	2010	0.1%			2010	0.4%	0.4%		2010	0.3%	0.3%	
	2011	-0.1%			2011	0.4%	0.4%		2011	0.5%	0.5%	
	2012	-0.2%			2012	1.9%	1.9%		2012	2.1%	2.1%	
	2013	0.1%			2013	-0.5%	-0.5%		2013	-0.7%	-0.7%	
	2014	0.3%			2014	0.5%	0.5%		2014	0.1%	0.1%	
	2015	0.2%			2015	-1.1%	-1.1%		2015	-1.3%	-1.3%	
	2016	0.1%			2016	-14.6%	-14.6%		2016	-14.7%	-14.7%	
	2017	2.7%			2017	-52.5%	-52.5%		2017	-53.7%	-53.7%	
	2018	0.1%			2018		-7.9%		2018		-8.0%	
	2019	0.1%			2019		0.1%		2019		0.0%	
	2020	0.1%		3.3%	2020		0.1%		2020		0.0%	
	Geometric Mean	0.3%			Geometric Mean	-11.9%	-9.2%	-62.0%	Geometric Mean	-12.3%	-9.5%	-63.2%

	Calendar Year (for 2020 Cost of Service)	Revenues				Demand (kW)					Demand (kW) per Connection					
							Actual (Weather actual)	Weather- normalized		Weather- normalized			Actual (Weather actual)	Weather- normalized	Weather- normalized	
Historical	2009	Actual	\$ 888,292	Board Approved	\$ 1,058,574	Actual	48,739	48,739	Board Approved		48,555	Actual	2.1	2.1	Board Approved	2
Historical	2010	Actual	\$ 1,232,674			Actual	48,810	48,810				Actual	2.1	2.1		
Historical	2011	Actual	\$ 1,481,876			Actual	49,250	49,250				Actual	2.1	2.1		
Historical	2012	Actual	\$ 1,595,243			Actual	49,566	49,566				Actual	2.1	2.1		
Historical	2013	Actual	\$ 1,613,758			Actual	49,480	49,480				Actual	2.1	2.1		
Historical	2014	Actual	\$ 1,642,055			Actual	49,412	49,412				Actual	2.1	2.1		
Historical	2015	Actual	\$ 1,638,299			Actual	49,145	49,145				Actual	2.1	2.1		

Historical	2016	Actual	\$ 1,651,187		Actual	43,203	43,203		Actual	1.8	1.8	
Historical	2017	Actual	\$ 1,715,223		Actual	19,819	19,819		Actual	0.8	0.8	
Historical	2018	Forecast	\$ 1,789,238		Forecast		18,409		Forecast		0.8	
Bridge Year (Forecast)	2019	Forecast	\$ 1,757,376		Forecast		18,420		Forecast		0.8	
Test Year (Forecast)	2020	Forecast	\$ 1,520,167		Forecast		18,431		Forecast		0.8	

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year	Test Year Versus Board-approved
	2009			2009			2009		
	2010	38.8%		2010	0.1%	0.1%	2010	0.1%	0.1%
	2011	20.2%		2011	0.9%	0.9%	2011	1.0%	1.0%
	2012	7.7%		2012	0.6%	0.6%	2012	0.9%	0.9%
	2013	1.2%		2013	-0.2%	-0.2%	2013	-0.3%	-0.3%
	2014	1.8%		2014	-0.1%	-0.1%	2014	-0.5%	-0.5%
	2015	-0.2%		2015	-0.5%	-0.5%	2015	-0.7%	-0.7%
	2016	0.8%		2016	-12.1%	-12.1%	2016	-12.2%	-12.2%
	2017	3.9%		2017	-54.1%	-54.1%	2017	-55.3%	-55.3%
	2018	4.3%		2018		-7.1%	2018		-7.2%
	2019	-1.8%		2019		0.1%	2019		0.0%
	2020	-13.5%	43.6%	2020		0.1%	2020		0.0%
	Geometric Mean	-1.5%		Geometric Mean	-12.1%	-9.3%	Geometric Mean	-12.4%	-9.6%

Note: If there are more than ten (10) customer classes, please contact OEB Staff to add tables for additional customer classes.



ATTACHMENT 3 – C

OEB Appendix 2-I: Load Forecast CDM Adjustment Work
Form

File Number: EB-2019-0032
 Exhibit: 13/12/2018
 Tab: cr
 Schedule:
 Page:
 Date: 01/04/2019

Appendix 2-I Load Forecast CDM Adjustment Work Form (2019)

Appendix 2-I was initially developed to help determine what would be the amount of CDM savings needed in each year to cumulatively achieve the four year 2011-2014 CDM target. This then

2018 is the fourth year of the six-year (2015-2020) Conservation First program. Final results for the 2011-14 program were issued in the fall of 2015, and the program is completed, although in some

The new six year (2015-2020) CDM program works in a slightly different manner to the previous 2011-2014 CDM program. Distributors will offer programs each year that, over the six years (from

2015-2020 CDM Program - 2018 fourth year of the current CDM plan

For the first year of the new 2015-2020 CDM plan, it is assumed that each year's program will achieve an equal amount of new CDM savings. This results in each year's program being about 1/6

6 Year (2015-2020) kWh Target:						
151,300,000						
2015	2016	2017	2018	2019	2020	Total
%						
2015 CDM Programs					6.61%	12.59%
2016 CDM Programs					12.14%	23.12%
2017 CDM Programs					17.81%	17.81%
2018 CDM Programs					38.69%	38.69%
2019 CDM Programs					49.49%	49.49%
2020 CDM Programs					48.79%	48.79%
Total in Year					173.53%	190.49%
kWh						
2015 CDM Programs	19,705,953.00	19,508,283.00	19,082,774.00	19,079,218.00	19,067,389.00	19,051,517.00
2016 CDM Programs		34,921,755.00	34,883,632.00	35,016,282.00	34,976,159.00	34,976,159.00
2017 CDM Programs			29,666,289.00	26,948,608.00	26,948,279.00	26,944,423.00
2018 CDM Programs				58,568,771.00	58,540,219.00	58,540,219.00
2019 CDM Programs					74,952,989.00	74,881,946.00
2020 CDM Programs						73,824,570.00
Total in Year	19,705,953.00	54,430,038.00	83,632,695.00	139,612,879.00	214,513,587.00	151,300,000.00

Inputs do not match 2015-20 CDM

Note: The default formulae in the above table assume that the 2015-2020 kWh CDM target is achieved through persistence of CDM savings to the end of 2020. The distributor should enter measured

Determination of 2018 Load Forecast Adjustment

The Board determined that the "net" number should be used in its Decision and Order with respect to Centre Wellington Hydro Ltd.'s 2013 Cost of Service rates (EB-2012-0113). This approach has

From each of the 2006-2010 CDM Final Report, and the 2011 to 2016 CDM Final Reports, issued by the OPA/IESO for the distributor, the distributor should input the "gross" and "net" results of the

Net-to-Gross Conversion				
Is CDM adjustment being done on a "net" or "gross" basis?				net
	"Gross" kWh	"Net" kWh	Difference kWh	"Net-to-Gross" Conversion Factor ('g')
Persistence of Historical CDM programs to 2015				
2006-2010 CDM programs	74,637,129	37,637,129	37,000,000	
2011 CDM program	12,031,917	9,025,360	3,006,557	
2012 CDM program	19,559,062	16,940,525	2,618,537	
2013 CDM program	27,894,354	21,421,600	6,472,754	
2014 CDM program	28,505,105	22,680,940	5,824,165	
2015 CDM program	27,009,259	19,705,953	7,303,306	
2016 CDM program	41,104,913	34,921,755	6,183,158	
2006 to 2016 OPA CDM programs: Persistence to 2018.	230,741,739	162,333,262	68,408,477	0.00%

The default values below represent the factor used for how each year's CDM program is factored into the manual CDM adjustment. Distributors can choose alternative weights of "0", "0.5" or

These factors do not mean that CDM programs are excluded, but the assumption that impacts of previous year CDM programs are already implicitly reflected in the actual data for historical

Weight Factor for Inclusion in CDM Adjustment to 2018 Load Forecast						
	2015	2016	2017	2018	2019	2020
Weight Factor for each year's CDM program impact on 2018 load forecast	0	0	0.5	1	1	0.5

Distributor can select "0", "0.5", or "1" from drop-down list

Default Value selection rationale.	Full year impact of 2015 CDM is assumed to be reflected in the base forecast, as the full year persistence of 2015 CDM programs is in the 2016 historical actual data. No further impact is necessary for the manual adjustment to the load forecast.	Default is 0.5, but one option is for full year impact of persistence of 2016 CDM programs on 2018 load forecast, but 50% impact in base forecast (first year impact of 2016 CDM programs on 2016 actuals, which is part of the data underlying the base load forecast).	Full year impact of persistence of 2017 programs on 2018 load forecast. 2017 CDM program impacts are not in the base forecast.	Only 50% of 2017 CDM programs are assumed to impact the 2018 load forecast based on the "half-year" rule.	2019 and 2020 are future years beyond the 2018 test year. No impacts of CDM programs beyond the 2018 test year are factored into the test year load forecast.
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2015-2020 LRAMVA and 2018 CDM adjustment to Load Forecast

One manual adjustment for CDM impacts to the 2018 load forecast is made. There is a different but related threshold amount that is used for the 2018 LRAMVA amount for Account 1568.

The amount used for the CDM threshold of the LRAMVA is the kWh that will be used to determine the base amount for the LRAMVA balance for 2018, for assessing performance against the six-year target.

If used to determine the manual CDM adjustment for the system purchased kWh, the proposed loss factor should correspond with the proposed total loss factor calculated in Appendix 2-R .

The Manual Adjustment for the 2018 Load Forecast is the amount manually subtracted from the system-wide load forecast (either based on a purchased or billed basis) derived from the base forecast from historical data. If the distributor has developed their load forecast on a system purchased basis, then the manual adjustment should be on a system purchased basis, including the adjustment for losses. If the load forecast has been developed on a billed basis, either on a system basis or on a class-specific basis, the manual adjustment should be on a billed basis, excluding losses.

The distributor should determine the allocation of the savings to all customer classes in a reasonable manner (e.g. taking into account what programs and what IESO-measured impacts were directed at specific customer classes), for both the LRAMVA and for the load forecast adjustment.

	2015	2016	2017	2018	2019	2020	Total for 2018
Amount used for CDM threshold for LRAMVA (2019)	19,067,389.00	34,976,159.00	26,948,279.00	58,568,771.00	74,952,989.00	73,824,570.00	288,338,157.00
Manual Adjustment for 2019 Load Forecast (billed basis)	-	-	13,474,139.50	58,568,771.00	74,952,989.00	36,912,285.00	183,908,184.50
Manual Adjustment for 2019 LDC-only CDM programs (billed basis)							
Total Manual Forecast to Load Forecast	-	-	13,474,139.50	58,568,771.00	74,952,989.00	36,912,285.00	183,908,184.50
Proposed Loss Factor (TLF)	3.77%	Format: X.XX%					
Manual Adjustment for 2019 Load Forecast (system purchased basis)	-	-	13,982,114.56	60,776,813.67	77,778,716.69	38,303,878.14	190,841,523.06

Manual adjustment uses "gross" versus "net" (i.e. numbers multiplied by (1 + g). The Weight factor is also used to calculate the impact of each year's program on the CDM adjustment to the 2018



ATTACHMENT 3 – D

ENWIN's 2015 – 2020 CDM Plans



August 8, 2018

Independent Electricity System Operator (IESO)
120 Adelaide Street West
Suite 1600
Toronto, ON M5H 1T1

To Whom It May Concern:

ENWIN has been successfully delivering conservation programs since 2005, meeting and exceeding the objectives set out by our Government. We take great pride in being able to serve our customers by helping them to better understand the importance of conservation, and managing their energy costs.

As you know, the 2015-2020 Conservation First Framework ("CFF") was established with the intention to have the IESO coordinate, support and fund the delivery of conservation programs through Local Distribution Companies ("LDC") such as ENWIN, as we represent the "face" of conservation to our customers. Since entering the CFF, ENWIN has been working diligently to bring the Save on Energy suite of programs to our customers.

We are pleased to inform you that over the last 3+ years we have been able to secure enough participation through these programs to meet and exceed our CFF energy savings target of 151.3 GWh, when accounting for both achieved and pipeline energy savings. However, in doing so, subject to all approved projects reaching completion, ENWIN's CFF budget of \$38.4M has now been fully allocated with 2.5 years remaining in the framework term. Therefore, ENWIN would like to formally request (via the attached CDM Plan) that the IESO deliver all province-wide programs in ENWIN's service territory for the remainder of the CFF term beginning October 1, 2018. ENWIN has elected to use Option #2, as defined in the March 16, 2017 webinar entitled "Implementation Strategy for Minister of Energy's Direction".

As per our discussions on July 20, 2018, ENWIN is submitting a CDM Plan which details our verified energy savings/spending for the period of 2015-2017, as well as, our expected energy savings/spending associated with all projects ENWIN currently has under contract (pipeline projects) for the remainder of the CFF term. You will note a PACT score of 0.5 in 2019. This low test score is the direct result of having to model advanced payments for one large PSUP CHP project which is valued at \$12.17M and scheduled to complete in 2020. The advanced payments were modelled in the plan with \$3M in 2018, \$6M in 2019, with the balance of \$3.17M in 2020. When the advance payments are modelled in the same year as the 2020 energy savings, the PACT score becomes 1.7 in 2019 and 3.9 in 2020. For budgetary reasons, the advanced payments were modelled in the year that the expense is expected to be incurred.



The appetite for conservation programming here in Windsor is strong, and ENWIN feels that there is still significant conservation potential within our service territory. As such, ENWIN would like to retain all outreach and administrative functions associated with program delivery. These job functions would continue to be funded out of ENWIN's 2015-2020 CFF budget and will decrease the overall costs to the IESO's central services budget. For clarity, ENWIN would not require any incremental funding on top of our existing \$38.4M budget to be able to provide these resources.

We welcome your feedback on the above noted request, and look forward to discussing this opportunity further with you at your earliest convenience.

Sincerely,

A handwritten signature in grey ink, appearing to read "C. Routliffe", is positioned above the printed name.

Chris Routliffe
Manager, CDM
ENWIN Utilities Ltd.

B. LDC Authorization

LDC DECLARATION	
Please complete the declaration for each LDC that is listed in this CDM Plan. A separate page with each LDC's signed declaration should be included as part of the CDM Plan submission.	
LDC	
<i>I represent that the information contained in this CDM Plan as it relates to the LDC is complete, true, and accurate in all respects. I acknowledge and agree to the following terms and conditions: (1) if this CDM Plan is approved by the IESO and accepted by each LDC to this CDM Plan, the CDM Plan together with any conditions to that approval is incorporated by reference into the Energy Conservation Agreement between the LDC and the IESO (2) the LDC will offer the Programs set out in Table 2 of this CDM Plan to customers in its service area; and (3) the LDC of will implement this CDM Plan in accordance with the CDM Plan Budget.</i>	
LDC's Legal Name:	EnWin Utilities Ltd.
Company Representative:	Helga Reidel, President & CEO
Signature	
	<i>I/We have the authority to bind the Corporation.</i>
Date (DD-Mon-YYYY)	

C. CDM Plan Summary

TABLE 1: SUMMARY OF CDM PORTFOLIO SAVINGS AND BUDGET												
		CDM PLAN TOTAL	LDC 1	LDC 2	LDC 3	LDC 4	LDC 5	LCD 6	LCD 7	LCD 8	LCD 9	LCD 10
a.	Allocated LDC CDM Plan Target (MWh) <i>Indicate total CDM Plan Target allocated to LDC(s)</i>	151,300	151,300.0									
b.	CDM Plan MWh Savings <i>Calculated as part of CDM Plan</i>	191,141	191,141	0	0	0	0	0	0	0	0	0
c.	Allocated LDC CDM Plan Budget (\$) <i>Indicate total budget allocated to LDC</i>	\$38,421,929	\$38,421,929.00									
d.	Total CDM Plan Budget (\$) <i>Calculated as part of CDM Plan</i>	\$38,421,929	\$38,421,929	0	0	0	0	0	0	0	0	0
f.	CDM Plan Cost Effectiveness		Total Resource Cost (TRC)			Program Administrator Cost (PAC)			Levelized Cost	CDM Plan does not pass Annual Cost Effectiveness test		
		Program Year	Benefits (\$)	Costs (\$)	Ratio	Benefits (\$)	Costs (\$)	Ratio	(\$/kWh)			
	<i>Indicate annual portfolio-level Cost Effectiveness for CDM Plan as determined by LDC(s) using output from Cost-Effectiveness Tool</i>	2015	\$ 13,111,548.67	\$ 2,755,337.10	4.8	\$ 11,378,132.43	\$ 111,618.00	101.9	\$0.001			
		2016	\$ 21,654,449.56	\$ 12,494,341.29	1.7	\$ 18,064,946.06	\$ 2,383,579.88	7.6	\$0.009			
		2017	\$ 19,297,220.33	\$ 11,305,229.73	1.7	\$ 16,504,893.36	\$ 7,330,784.31	2.3	\$0.035			
		2018	\$ 38,031,629.76	\$ 25,015,544.27	1.5	\$ 32,318,898.57	\$ 14,294,113.29	2.3	\$0.031			
		2019	\$ 4,979,094.52	\$ 2,711,592.53	1.8	\$ 4,326,789.31	\$ 7,994,585.04	0.5	\$0.140			
		2020	\$ 54,458,718.32	\$ 16,887,534.44	3.2	\$ 47,355,407.23	\$ 4,011,924.03	11.8	\$0.007			
		CDM Plan Total	\$151,532,661	\$71,169,579	2.1	\$129,949,067	\$36,126,605	3.6	\$0.020			
g.	Plan Cost Effectiveness-Exceptions Rationale <i>Complete this section if proposed plan <u>does not</u> meet minimum Cost-Effectiveness Thresholds set out in CDM Plan Submission and Review Criteria Rules.</i>	Note that advanced payments option selected by a customer for a PSUP CHP project are modelled in the plan with \$3.0 M in 2018 and \$6.0 M in 2019 while the energy savings are slated for 2020. The advance payment of \$6.0 M modelled in 2019 creates a PACT result of 0.5. When the advanced payments are modelled in the same year as the 2020 energy savings the PACT for 2019 becomes 1.7 and 3.9 in 2020. However for budgetary approval reasons the advanced payments were modelled in the years required.										

CDM Plan does not pass Annual Cost Effectiveness test

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES	
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO could only be achieved with funding in addition to the CDM Plan Budget.

LDC 1: EnWin Utilities Ltd.

TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-income	Small Business	Commercial (inc. Multi-F	Agricultural	Institutional	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs	Energy Manager Program			1-Jun-2016				Yes	Yes	Yes	Yes		4,465	-	107,513.00	1,124.2	538,305	356.1	525,596	858.0	276,463	572.0	26,463	-	1,478,805	2,910.3
	Retrofit			1-Jan-2016			Yes	Yes	Yes	Yes	Yes		93,759	166.3	1,705,825.48	24,620.5	4,546,172	9,760.2	5,726,811	24,594.0	1,091,955	76.4	1,074,647	-	14,239,169	59,217.4
	Audit Funding Program			1-Jan-2016				Yes	Yes	Yes	Yes		2,232	-	43,420.00	276.0	47,003	0.0	86,669	0.0	13,802	-	13,802	-	206,929	0.0
	Process and Systems Upgrades Program			1-Jan-2016				Yes	Yes	Yes	Yes		10,046	-	119,967.00	-	1,065,953	5,008.2	8,342,099	20,446.4	7,271,375	4,672.9	3,314,575	54,001.6	20,124,016	84,129.0
		Intelligent Air Tools Pilot		1-Oct-2016				Yes	Yes	Yes	Yes		-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
		Building Optimization Pilot		1-Jan-2015				Yes	Yes	Yes	Yes		-	-	-	1,800.0	-	-	-	-	-	-	-	-	-	1,800.0
	Small Business Lighting Coupon Program			1-Jun-2016			Yes						-	-	-	-	75,552	306.8	108,668	435.2	-	-	-	-	184,220	742.0
				1-Jan-2016	Yes								1,116	-	449,015.00	6,996.7	1,073,896	5,638.9	-	-	-	-	-	-	1,524,027	12,635.6
	Home Assistance Program			1-Jun-2016		Yes							-	-	5,511.00	-	42,285	47.1	15,863	7.4	-	-	-	-	63,659	54.5
		Residential Heat Pump Pilot		1-Sep-2015	Yes								-	-	-	158.0	-	-	-	-	-	-	-	-	-	158.0
		Home Depot Pilot Program		1-Jan-2016				Yes					-	-	-	0.8	-	-	-	-	-	-	-	-	-	0.8
		Whole Home Pilot Program		1-Jan-2017	Yes	Yes							-	-	-	-	-	259.7	-	-	-	-	-	-	-	259.7
		SOE Energy Performance Program		1-Jan-2017			Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-	786.7	-	-	-	-	-	-	-	786.7
	Instant Discount Program			1-Oct-2017	Yes	Yes							-	-	-	-	237,782	4,780.9	363,321	4,780.9	-	-	-	-	601,103	9,561.8
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D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 2:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-income	Small business	Commercial (inc. Multi-F)	Agricultural	Institutional	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL																									
	Pay for Performance Programs																									
P4P TOTAL																										
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL																										
TARGET GAP TOTAL																										
CDM PLAN TOTAL																										
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 3:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-income	Small business	Commercial (inc. Multi-F)	Agricultural	Institutional	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL																									
	Pay for Performance Programs																									
P4P TOTAL																										
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL																										
TARGET GAP TOTAL																										
CDM PLAN TOTAL																										
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES	
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.
3. Anticipated Annual Budget	Include annual budgets for each program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.

LDC 4:	
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[illegible]

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES	
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.
3. Anticipated Annual Budget	Include annual budgets for each program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.

LDC 5:	
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[illegible]

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 6:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-Income	Small Business	Commercial/Inst. Multi-Use	Agricultural	Industrial	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0		
	Pay for Performance Programs																									
P4P TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL										\$0	0.0											0.0	0.0			
TARGET GAP TOTAL																						0.0				
CDM PLAN TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 7:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-Income	Small Business	Commercial/Inst. Multi-Use	Agricultural	Industrial	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0		
	Pay for Performance Programs																									
P4P TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL										\$0	0.0											0.0	0.0			
TARGET GAP TOTAL																						0.0				
CDM PLAN TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 8:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-Income	Small business	Commercial/Inst. Multi-Use	Agricultural	Institutional	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0		
	Pay for Performance Programs																									
P4P TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL										\$0	0.0											0.0	0.0			
TARGET GAP TOTAL																						0.0				
CDM PLAN TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 9:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-Income	Small Business	Commercial/Inst. Multi-Use	Agricultural	Institutional	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0		
	Pay for Performance Programs																									
P4P TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL										\$0	0.0											0.0	0.0			
TARGET GAP TOTAL																						0.0				
CDM PLAN TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
MINIMUM ANNUAL SAVINGS CHECK																										

D. CDM Plan Detailed List of Programs, Election of Funding Mechanism, and Annual Milestones

NOTES																										
1. CDM Plan	Complete Table 2 for all Programs for which will contribute towards the CDM Plan Target.																									
2. Program Name	Province-wide LDC Program names are found in the applicable Program Rules. Regional & local Program names should be consistent with those included in approved business cases (if applicable) and consistent throughout this CDM Plan.																									
3. Anticipated Annual Budget	Include annual budgets for each Program to be allocated against the CDM Plan Budget by funding mechanism. Note: LDC Eligible Expenses incurred in 2014 for programs delivered in 2015 (and not funded as part of the 2011-2014 Master CDM Program Agreement) should be included in 2015 Annual anticipated budget amounts.																									
4. Target Gap	Portion of the CDM Plan Target that the LDC reasonably expects, based on qualified independent third party analysis as accepted by the IESO, could only be achieved with funding in addition to the CDM Plan Budget.																									
LDC 10:																										
TABLE 2. PROGRAM AND MILESTONE SCHEDULE																										
Funding Mechanism	Approved Province Wide Programs	Approved Local, Regional, or Pilot Programs	Proposed Pilots or Programs	Program Start Date (DD-Mon-YYYY)	Customer Segments Targeted by Program								Program Implementation Schedule (Annual Anticipated Budget & Incremental Annual Milestones by Program)													
													2015		2016		2017		2018		2019		2020		Total 2015 - 2020	
					Residential	Low-Income	Small Business	Commercial/Inst. Multi-Use	Agricultural	Industrial	Industrial	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Anticipated Annual Budget (\$)	Energy Savings (MWh)	Total CDM Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	
Full Cost Recovery Programs																										
	FCR TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0		
	Pay for Performance Programs																									
P4P TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
2011-2014 CDM Framework (and 2015 extension of 2011-2014 Master CDM Agreement) (Not funded through 2015-2020 CDM Framework)																										
2011-2014 CDM Framework (and 2015 extension) TOTAL										\$0	0.0											0.0	0.0			
TARGET GAP TOTAL																						0.0				
CDM PLAN TOTAL										\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0			
MINIMUM ANNUAL SAVINGS CHECK																										

E. Proposed Local and Regional Pilot CDM Programs

Notes			
Complete the following Table(s) for each proposed local and regional Program or Pilot Program in the CDM Plan for which a business case has NOT previously been approved by the IESO. Please refer to the Program Development and Rule Revision Guideline and the Business Case Template for full details on requirements and submission of a business case for approval of a local or regional Program. For the process for receiving funding for a Pilot Program, refer to the LDC Program Innovation Guideline.			

TABLE 3a. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3c. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3e. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3b. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3d. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3f. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

E. Proposed Local and Regional Pilot CDM Programs

Notes		
Complete the following Table(s) for each proposed local and regional Program or Pilot Program in the CDM Plan for which a business case has NOT previously been approved by the IESO. Please refer to the Program Development and Rule Revision Guideline and the Business Case Template for full details on requirements and submission of a business case for approval of a local or regional Program. For the process for receiving funding for a Pilot Program, refer to the LDC Program Innovation Guideline.		

TABLE 3g. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3i. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3h. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

TABLE 3j. PROPOSED LOCAL AND REGIONAL CDM PROGRAMS / PILOTS			
a. Program Name		Use same "Program name" included in other worksheets	
b. Program Type			
b. Estimated Business Case Submission Date (DD-Mon-YYYY)			
c. Customer Segment(s) Served by Programs			
d. Participating LDCs (if applicable)			
e. Overview of Proposed Program or Pilot			
Provide overview of key objectives and elements of proposed program or pilot.			

F. Detailed Information on Collaboration and Regional Planning

ADDITIONAL DETAILED INFORMATION	
Regional LDC(s) Collaboration <i>Description of how the LDC(s) will collaborate with other LDCs. If collaboration will not occur, description of why it will not occur.</i>	<p>Collaboration between EnWin and other regional utilities (Essex Powerlines, E.L.K., Entegrus and Bluewater Power) is currently underway. Collectively, the group has identified 4 main areas in which we feel collaboration opportunities exist. These areas are:</p> <ol style="list-style-type: none">1. Marketing<ul style="list-style-type: none">o Printo Radio Adso Promotional Events2. Joint Procurement<ul style="list-style-type: none">o Shared Serviceso Program Oversighto Marketing3. Program Design<ul style="list-style-type: none">o Local or Regional Programming<input type="checkbox"/> Residential Sector<input type="checkbox"/> Low-Income Sector4. Energy Managers<ul style="list-style-type: none">o Energy Managers that span multiple LDC service territories. <p>The group has proposed the formation of sub-groups to ensure that each of the above opportunities are perused further. The sub-groups will be comprised of members of each of the LDCs who feel that they can benefit from the individual opportunities. These sub-groups will be formed and come together in the summer of 2015.</p>
Gas Collaboration <i>Description of how the LDC(s) will collaborate with other gas utility programs delivered in service area (if applicable). If collaboration will not occur, description of why it will not occur.</i>	<p>Collaboration between EnWin and Union Gas will initially be focused around outreach and account management collaboration in the following forms:</p> <ol style="list-style-type: none">1. Access to program marketing materials<ul style="list-style-type: none">o Both EnWin and Union Gas will have access to each other's marketing materials to provide to clientso These materials can be used to promote Energy Efficiency incentives at site visits and electronically by Account Representatives2. Both EnWin and Union Gas will familiarize themselves with each other's respective programs to inform customers when opportunities are identified3. Account Representative interaction and communication<ul style="list-style-type: none">o Account Representatives that share similar territories will communicate to inform each other of opportunities identified during site visits, audits, or through other client interactionso Account Representatives will combine efforts at regional tradeshow and events as and when applicableo Account Representatives will share market intelligence and market potential reportso Identify common target groups and coordinate accordingly <p>Additionally as the Gas utilities determine how they will collectively work with numerous LDCs across Ontario, EnWin will be mindful to participate in initiatives that are rolled out to all LDCs (if or when developed).</p> <p>Currently the Gas utilities are being engaged by all the LDCs and will need to determine how to work collectively without creating separate partnerships and plans for each LDC. If they are developed, EnWin will participate in any joint activities or initiatives that are rolled out when they overlap in the target territory and customer segments/types.</p>
CDM Contribution to Regional Planning <i>Description of how the CDM Plan considers the electricity needs and investments identified in other plans or planned initiatives, completed or underway within the LDC(s)' service area or region. This may include Integrated Regional Resource Plans or Municipal Community Energy Plans.</i>	<p>EnWin's 2015-2020 Conservation Targets were considered in the development of the Integrated Regional Resource Plan (IRRP) and Regional Infrastructure Plan (RIP) for the Windsor/Essex Region as well as EnWin's Distribution System Plan. As demonstrated in this plan, EnWin is committed to offering CDM programming to all customer segments within their service territory during the period of 2015-2020 as well as achieving their energy savings target assigned by the IESO. The achievement of said target will contribute to the success of the actions recommended in the Windsor/Essex IRRP which are intended to ensure that the supply needs of the region are met.</p> <p>EnWin is also actively supporting the City of Windsor in their Municipal Energy Plan by providing energy data.</p>

G. Additional Documentation for CDM Plan (If applicable)

ADDITIONAL INFORMATION AND DOCUMENTATION	
Programs <i>Opportunity to provide any additional information on assumptions used for budgets and/or savings for approved 2015-2020 province-wide programs</i>	The total allocated funding has now been fully committed for active customer project applications and required administration costs out to 2020. By way of this application Enwin Utilities is illustrating the requirement for the IESO to continue to fund new participant incentives for the province wide programs for the balance of 2018 - 2020. Through the budgeted administration costs Enwin requests to remain active in the implementation of the province wide programs till 2020. Note that advanced payments option selected by a customer for a PSUP CHP project are modelled in the plan with \$3.0 M in 2018 and \$6.0 M in 2019 while the energy savings are slated for 2020. The advance payment of \$6.0 M modelled in 2019 creates a PACT result of 0.5. When the advanced payments are modelled in the same year as the 2020 energy savings the PACT for 2019 becomes 1.7 and 3.9 in 2020. However for budgetary approval reasons the advanced payments were modelled in the years required.
Approved Local and/or Regional Programs and Pilot Programs <i>Opportunity to provide any additional information on assumptions used for budgets and/or savings for approved 2015-2020 local or regional programs or pilot programs</i>	
Proposed Local and/or Regional Programs and Pilot Programs <i>Opportunity to provide additional information on assumptions used for forecast budgets and/or savings for proposed programs or pilot programs</i>	
Programs from 2011-2014/2015 CDM Framework <i>Opportunity to provide any additional information on assumptions used for budgets and/or savings from existing 2011-2014/2015 CDM Programs</i>	The incentive and administration costs for programs funded under the 2015 Transition Funding Agreement were captured as follows: 1. For programs which are funded for all of 2015 under the Agreement, the administration costs were set to \$0 and the incentive costs set to \$0.0000000001/unit to allow for TRC and PACT calculations.
Programs funded through Pay-for-Performance <i>Opportunity to provide any additional information on assumptions used for budgets and/or savings for Pay for Performance Programs</i>	
Other <i>Additional assumptions used in the CDM Plan</i>	

Summary of Changes to CDM Template

Version No.	Date	Tab	Change Summary
2	20-Jan-15	A. General Information	Inclusion of "Company Name" for Primary Contact
			Inclusion of frequency of invoicing (monthly vs. quarterly)
			Update date format to eliminate confusion
			Change reference to OPA
			Additional LDCs for joint plan
		B. LDC Authorization	Update date format to eliminate confusion
		D. CDM Plan Milestone LDC 1-10	Additional line items for FRC program names
			Additional LDCs for joint plan
			Update on the program names
			Update date format to eliminate confusion
			Update column headers: - "Province Wide Program Name" - "Proposed Regional or Local CDM Program or Pilot Program Name"
			Change reference to OPA
			Update Header and Footer
		E.. Proposed Program&Pilots	Additional boxes for proposed programs
			Update date format to eliminate confusion
		O. Detailed Information	Clarify if it is primary LDC or all LDCs in a joint CDM Plan.

BEFORE YOU BEGIN: ENABLE MACROS WITHIN EXCEL (Option 1: Click the security warning this warning does not appear click "File" > "Options" > "Trust Center" > "Trust Center Settings" >

Each section of the tool is grouped, linked, and colour coded for easy navigation. Simply click on Module worksheet dividers (i.e., the black tabs) provide high-level instructions for that module. So key calculations are housed. Instructions are embedded throughout the Tool. Detailed instruction accompanies this Tool.

Tool Structure: (click hyperlinks for easy navigation)

Module	Section	Section Description
	Consolidated Summaries	Contains summaries of the results of a 2015-2020 portfolio from various perspectives. The summaries reflect the portfolio (programs, measures, budget) specified within the "Program Design" section of the Tool for input into CDM plans
PROGRAM DESIGN MODULE		
	Program Design (User Inputs)	Main input worksheets for the average user for program design purposes. Users create and select measures associated with programs, and input budgets
RESULTS MODULE		
	Results	Contains the results of the cost effectiveness analysis for the inputs specified by the user in the Program Design module.
ADMIN INPUT MODULE		
	OPA/Admin Inputs	Administrative users input assumptions within these worksheets, the average user does not need to interact with this module
DEFINED INPUTS MODULE		
	Custom Input	Users can create custom inputs to the Tool (load profiles and measures) that can be used when creating a new program/portfolio/measure. User defined load profiles available building blocks for the program design module are found here.
CALCULATION ENGINE		
	Calculation Engine	The worksheets in this module are required to calculate the cost effectiveness outputs and contain

	Calculation Engine	<i>detailed calculations and reference information. Users do not need to interact with these worksheets.</i>
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Legend: (cells within the Tool are formatted according to the table below)

Code	Code Definition	Description
Blue Text	User input (mandatory)	These cells or columns provide the model with key user input. If these cells are not populated, the Tool will not run.
Black Text	User input (optional)	These cells or columns provide the Tool with parameters that the user can choose to manually override the information provided by the model.
Black Text, Italics	Description or Instructions	These cells or columns contain information for the user associated with a particular worksheet.
Black Text	Calculated cell	These cells or columns contain formulas that are essential to the model and cannot be modified by the user.
White Text	Calculated columns	
Red Text	Caution	These instructions indicate a step that is critical or a modification that must be made. Special care should be taken when these instructions are followed.

Cost Effectiveness Acronyms Used in the Tool:

CDM	Conservation And Demand Management
CE	Cost Effectiveness
DR	Demand Response
Dx	Distribution System
EE	Energy Efficiency
EUL	Effective Useful Life
kW	Kilowatt
kWh	Kilowatt Hour
LC	Levelized Delivery Cost
MW	Megawatt
MWh	Megawatt Hour
NPV	Net Present Value
O&M	Operations And Maintenance
PAC	Program Administrator Cost
PV	Present Value
RIM	Rate Impact Measure
RUL	Remaining Useful Life
SC	Societal Cost
TRC	Total Resource Cost

Disclaimer: This Tool is provided solely for informational purposes and based on information currently available to the IESO. The IESO does not assume any liability for any other use of the information in the Tool or any methods described. In particular, the information and outputs of the Tool are not intended to be used for legal or financial purposes.

The IESO does not warrant the accuracy, reliability, completeness or timeliness of any of the information contained in the Tool or information contained therein at their own risk and remain responsible for seeking appropriate legal, technical or other professional advice. IESO, its officers, directors, employees, consultants, agents and subcontractors assume no liability or responsibility whatsoever to any person for any result of the use of this Tool or reliance on the information therein.

Effectiveness Tool

ing at the top of your worksheet and click "Enable Content", if
"Macro Settings" and finally select "Enable all macros"

the hyperlink to reach the worksheet you are looking for.
ome tabs are locked or hidden where standard assumptions or
s and procedures can be found in the User Guide that

Worksheet Name	Worksheet Permissions
Plan	Tool Output
Budget	Tool Output
Sector	Tool Output
Detail	Tool Output
BMG	Tool Output
Measures	User Input
Program Design	User Input
Budget Inputs	User Input
External Inputs	User Input
CE Results	Tool Output
Savings Results	Tool Output
Summary CE Results	Tool Output
ADMIN OPTIONS	Administrative Use only
CE Parameters	Administrative Use only
Rates Table	Administrative Use only
Avoided Cost Table	Administrative Use only
Custom Load Profile Input	User Input
Custom Measure Input	User Input
Formatted Load Profiles	Tool Output
Measure CE Results	Reference Only
VBA References	Reference Only

Levelized Avoided Cost Table	<i>Reference Only</i>
Levelized Rates Table	<i>Reference Only</i>

Description
er inputs required to complete the cost effectiveness may return an error or the results will be incomplete.
ers that may be populated through a user input form. However, ion provided from the input form within these cells or columns.
r to better understand the procedures and/or purpose
ntial to the calculation of the tool, in most cases these cells are
istake that is common that may result in an error in the Tool. are encountered.

The Independent Electricity System Operator ("IESO") expressly disclaims any responsibility its of the Tool are not meant to be relied on to determine actual electricity or cost savings.

), and undertakes no obligation to revise or update the Tool. Users of this Tool rely on the professional advice with regard to their particular circumstances. The IESO and its respective person for damages of whatever kind and nature, which may occur or be suffered as a

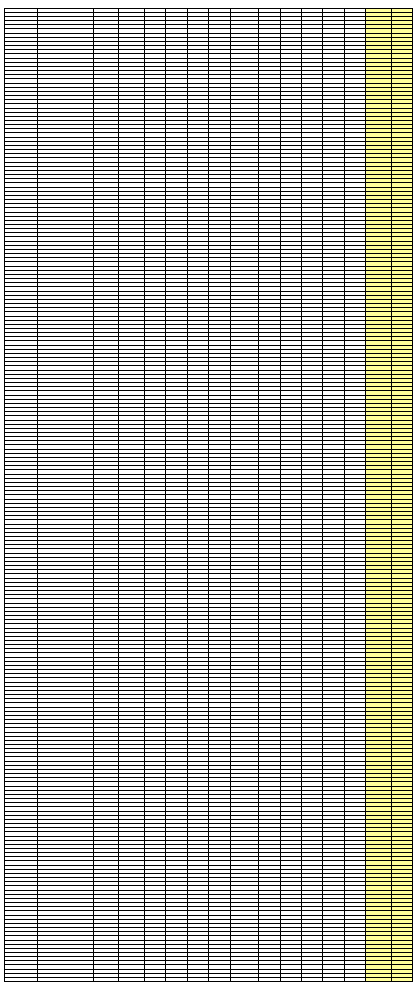


TABLE 4

Budget Result Summary		
		PROGRAM YEAR
		2015
SECTOR	PROGRAM	Incentives
Non-Residential	2015 DIL	\$ -
Non-Residential	Retrofit	\$ -
Non-Residential	Small Business Lighting	
Non-Residential	High Performance New Construction	
Non-Residential	Small Business Refrigeration	
Non-Residential	Audit Funding	
Non-Residential	Existing Building Commissioning	
Non-Residential	Monitoring and Targeting	
Non-Residential	Energy Manager	
Non-Residential	2015 PSUI Energy Manager Initiative	\$ -
Non-Residential	2015 Audit Funding	\$ -
Non-Residential	2015 ERII Retrofit	\$ -
Non-Residential	2015 PSUI Capital Incentive	\$ -
Non-Residential	Process and Systems Upgrades Program	
Non-Residential	Retrocommissioning LDC Innovation Pilot	
Non-Residential	SOE Energy Performance Pilot	
Residential	2015 Heating and Cooling Program	\$ -
Residential	2015 Residential New Construction	\$ -
Residential	2015 Low Income Initiative	\$ -
Residential	Heating and Cooling Program	
Residential	Home Depot Appliance Market Uplift	
Residential	New Construction Program	
Residential	Home Assistance Program	
Residential	Coupon Program	
Residential	2015 Bi-Annual Retailer Event	\$ -
Residential	2015 Coupon Program	\$ -
Residential	Instant Discount Program	
Residential	ASHP - Ductless Pilot	
Residential	Whole Home Pilot Program	
Total		\$ -

2015	2015	2015	2015	2016
Program Admin	LDC Variable Costs	Central Service Costs	2015 Sub-Total	Incentives
\$ -	\$ -	\$ -	\$ -	
\$ 93,759	\$ -	\$ -	\$ 93,759	\$ 614,255
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ 2,232			\$ 2,232	\$ 51,787
\$ -			\$ -	
\$ -			\$ -	\$ -
\$ 4,465			\$ 4,465	\$ 90,000
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ 10,046			\$ 10,046	\$ 46,570
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ -			\$ -	\$ -
\$ 1,116			\$ 1,116	\$ 376,624
\$ -	\$ -	\$ -	\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ 111,618	\$ -	\$ -	\$ 111,618	\$ 1,179,236

2016	2016	2016	2016	2017
Program Admin	LDC Variable Costs	Central Service Costs	2016 Sub-Total	Incentives
\$ -			\$ -	
\$ 1,091,570	\$ -	\$ -	\$ 1,705,825	\$ 3,754,193
\$ -	\$ -	\$ -	\$ -	\$ 51,188
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ (8,367)	\$ -	\$ -	\$ 43,420	\$ 2,900
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 17,513	\$ -	\$ -	\$ 107,513	\$ 489,842
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ 73,397	\$ -	\$ -	\$ 119,967	\$ 893,866
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	\$ -
\$ 5,511	\$ -	\$ -	\$ 5,511	\$ 24,685
\$ 35,515	\$ -	\$ 36,876	\$ 449,015	\$ 922,707
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	\$ 227,145
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	\$ -
\$ 1,215,139	\$ -	\$ 36,876	\$ 2,431,251	\$ 6,366,526

2017	2017	2017	2017	2018
Program Admin	LDC Variable Costs	Central Service Costs	2017 Sub-Total	Incentives
\$ -			\$ -	
\$ 791,979	\$ -	\$ -	\$ 4,546,172	\$ 4,687,382
\$ 24,364	\$ -	\$ -	\$ 75,552	\$ 67,392
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	\$ -
\$ 44,103	\$ -	\$ -	\$ 47,003	\$ 73,319
\$ -			\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 48,463	\$ -	\$ -	\$ 538,305	\$ 500,000
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ 172,087	\$ -	\$ -	\$ 1,065,953	\$ 8,202,262
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 17,600	\$ -	\$ -	\$ 42,285	\$ 15,863
\$ 66,642	\$ -	\$ 84,547	\$ 1,073,896	
\$ -			\$ -	
\$ -			\$ -	
\$ -	\$ -	\$ 10,637	\$ 237,782	\$ 331,157
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	
\$ 1,165,238	\$ -	\$ 95,184	\$ 7,626,948	\$ 13,877,375

2018	2018	2018	2018	2019
Program Admin	LDC Variable Costs	Central Service Costs	2018 Sub-Total	Incentives
\$ -			\$ -	
\$ 1,039,428	\$ -	\$ -	\$ 5,726,811	\$ 17,308
\$ 41,277	\$ -	\$ -	\$ 108,668	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 13,350	\$ -	\$ -	\$ 86,669	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 25,596	\$ -	\$ -	\$ 525,596	\$ 250,000
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ 139,837	\$ -	\$ -	\$ 8,342,099	\$ 7,126,800
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ 15,863	
\$ -			\$ -	\$ -
\$ -			\$ -	
\$ -			\$ -	
\$ 17,257	\$ -	\$ 14,907	\$ 363,321	
\$ -			\$ -	
\$ -			\$ -	
\$ 1,276,745	\$ -	\$ 14,907	\$ 15,169,027	\$ 7,394,108

2019	2019	2019	2019	2020
Program Admin	LDC Variable Costs	Central Service Costs	2019 Sub-Total	Incentives
\$ -			\$ -	
\$ 1,074,647	\$ -	\$ -	\$ 1,091,955	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 13,802	\$ -	\$ -	\$ 13,802	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 26,463	\$ -	\$ -	\$ 276,463	\$ -
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ 144,575	\$ -	\$ -	\$ 7,271,375	\$ 3,170,000
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ -			\$ -	
\$ 1,259,488	\$ -	\$ -	\$ 8,653,596	\$ 3,170,000

2020	2020	2020	2020	
Program Admin	LDC Variable Costs	Central Service Costs	2020 Sub-Total	Total
\$ -			\$ -	\$ -
\$ 1,074,647			\$ 1,074,647	\$ 14,239,169
\$ -	\$ -	\$ -	\$ -	\$ 184,220
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 13,802	\$ -	\$ -	\$ 13,802	\$ 206,929
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ 26,463	\$ -	\$ -	\$ 26,463	\$ 1,478,805
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ 144,575	\$ -	\$ -	\$ 3,314,575	\$ 20,124,016
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -
\$ -			\$ -	\$ 63,659
\$ -	\$ -	\$ -	\$ -	\$ 1,524,027
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ -			\$ -	\$ 601,103
\$ -			\$ -	\$ -
\$ -			\$ -	\$ -
\$ 1,259,488	\$ -	\$ -	\$ 4,429,488	\$ 38,421,929

TABLE 5: Sector Summary

Metric	Residential	Non-Residential
% of 2020 Annual Savings (target)	13.6%	86.4%
% of Total Incentives	5.9%	94.1%
% of Total Budget	5.7%	94.3%

Po

TABLE 6: Residential Sector Summary

Metric	2015	2016	2017
Annual Savings (kWh)	3,391	10,547	21,273
Incentive Costs (\$)	\$ -	\$ 376,624	\$ 1,174,537
Total Budget (\$)	\$ 1,116	\$ 454,526	\$ 1,353,963

TABLE 7: Non-Residential Sector Summary

Metric	2015	2016	2017
Annual Savings (kWh)	15,660	43,481	59,699
Incentive Costs (\$)	\$ -	\$ 802,612	\$ 5,191,989
Total Budget (\$)	\$ 110,502	\$ 1,976,725	\$ 6,272,985

TABLE 8: Total Portfolio Summary

Metric	2015	2016	2017
Annual Savings (kWh)	19,052	54,028	80,972
Incentive Costs (\$)	\$ -	\$ 1,179,236	\$ 6,366,526
Total Budget (\$)	\$ 111,618	\$ 2,431,251	\$ 7,626,948

TABLE 9: Home Assistance Program Summary

Metric	Home Assistance Program (HAP)
% of 2020 Annual Savings (target)	0.0%
% of Total Incentives	0.0%
% of Total Budget	0.0%

TABLE 10: Home Assistance Program by Year

Metric	2015	2016	2017
Number of Projects	0	0	0
Annual Savings (kWh)	0	0	0
Incentive Costs (\$)	\$ -	\$ -	\$ -
Total Budget (\$)	\$ -	\$ -	\$ -

pulate Summary!

2018	2019	2020
26,062	26,062	26,062
\$ 347,020	\$ -	\$ -
\$ 379,184	\$ -	\$ -

2018	2019	2020
106,032	111,354	165,079
\$ 13,530,355	\$ 7,394,108	\$ 3,170,000
\$ 14,789,843	\$ 8,653,596	\$ 4,429,488

2018	2019	2020
132,094	137,415	191,141
\$ 13,877,375	\$ 7,394,108	\$ 3,170,000
\$ 15,169,027	\$ 8,653,596	\$ 4,429,488

2018	2019	2020
0	0	0
0	0	0
\$ -	\$ -	\$ -
\$ -	\$ -	\$ -

SUMMARY OF CDM PORTFOLIO COST EFFECTIVENESS										
Plan Cost Effectiveness	Implementation Year	TRC			PACT			Levelized Cost		
		Benefits (\$)	Costs (\$)	Ratio	Benefits (\$)	Costs (\$)	Ratio	PV of Lifetime Net Energy Savings (kWh)	Costs (\$)	(\$/kWh)
	2015	13,111,549	2,755,337	4.8	11,378,132	111,618	101.9	168,327,389	111,618	0.001
	2016	21,654,450	12,494,341	1.7	18,064,946	2,383,580	7.6	255,137,855	2,383,580	0.009
	2017	19,297,220	11,305,230	1.7	16,504,893	7,330,784	2.3	212,471,549	7,330,784	0.035
	2018	38,031,630	25,015,544	1.5	32,318,899	14,294,113	2.3	465,124,883	14,294,113	0.031
	2019	4,979,095	2,711,593	1.8	4,326,789	7,994,585	0.5	57,192,833	7,994,585	0.14
	2020	54,458,718	16,887,534	3.2	47,355,407	4,011,924	11.8	609,352,794	4,011,924	0.01
	Plan Total	151,532,661	71,169,579	2.1	129,949,067	36,126,605	3.6	1,767,607,303	36,126,605	0.020

TABLE 12:

SUMMARY OF PERSISTING CDM PORTFOLIO SAVINGS														
Plan Persisting Savings (end-user level)	Implementation Year	2015		2016		2017		2018		2019		2020		
		MW	MWh	MW	MWh	MW	MWh	MW	MWh	MW	MWh	MW	MWh	
	2015	2.93	19,051.5	2.93	19,051.5	2.93	19,051.5	2.93	19,051.5	2.93	19,051.5	2.93	19,051.5	
	2016	0.00	0.0	5.62	34,976.2	5.62	34,976.2	5.62	34,976.2	5.57	34,976.2	5.57	34,700.2	
	2017	0.00	0.0	0.00	0.0	3.92	26,944.4	3.92	26,944.4	3.92	26,944.4	3.92	26,944.4	
	2018	0.00	0.0	0.00	0.0	0.00	0.0	5.31	51,121.9	5.31	51,121.9	5.31	51,121.9	
	2019	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.61	5,321.3	0.61	5,321.3	
	2020	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	6.17	54,001.6	
	Plan Total	2.93	19,051.5	8.55	54,027.7	12.47	80,972.1	17.78	132,094.0	18.39	137,415.3	24.50	191,140.9	

TABLE 13

SUMMARY OF CDM PORTFOLIO COSTS				
CDM Plan Costs	Implementation Year			
	2015			
	2016			
	2017			
	2018			
	2019			
	2020			
	Plan Total			

Program Design Module

INSTRUCTIONS:

- 1** *Begin with the "Measure" worksheet to quickly create any new measures needed. A measure is defined as a program, a set of assumptions, and a set of costs. For a more step-by-step measure creation approach, please refer to the "Custom Measures" worksheet.*
- 2** *Next, move to the "Program Design" worksheet and select the measures to be included in your program(s), enter admin costs and program years for each measure. If a measure does not appear, it has not been added in the "Measure" worksheet. Admin costs (if applicable) will be automatically populated, if applicable.*
- 3** *Next, input any program-level budgets in the "Budget Inputs" worksheet (this worksheet will not populate until you have entered program years in the "Program Design" worksheet. It will populate with only the programs and program years selected in step 2. If an additional program is added, it will be added to the "Budget Inputs" worksheet.)*
- 4** *Finally, if necessary, populate the "External Input" worksheet with any externally calculated cost-effectiveness data. The assumptions align with the "CE Parameters" worksheet (i.e., inflation rate, base year, etc.).*
- 5** *To calculate Cost Effectiveness, activate the "CE Results" worksheet and click the appropriate buttons. This will calculate the "Summary CE Results."*
- 6** *To view measure level savings for the life of a measure, activate the "Measure Savings Results" worksheet.*
- 7** *Summary results from various perspectives can be found in the "SUMMARIES>>>" section.*

the combination of the technology (measure), program, re Input" worksheet.

*specify the participation, incentive levels, variable LDC
Step 1. Central Services Costs (IESO variable program*

*until the measures have been selected). This worksheet
d, the existing budgets will remain intact.*

ass results (i.e. behind the meter generation). Ensure that

s will populate both the "CE Results" cost effectiveness

and click the appropriate buttons.

**Program Design Module:
Measure Selection**

Users select the measures to model for program design, track program year, quantity of measures, incentive and variable program costs. These three components can be modified either within the Use spreadsheet. Users can input single measures or all measures.

Use buttons to add and remove measures and calculate cost effectiveness at the measure level.

"Single Measure Selection": Activates the measure selection form (users quantity, program year, incentive and variable program costs).

"Bulk Measure Selection": Activates the bulk measure selection and specification form (users quantity, program year, incentive and variable program costs, but can modify these values after the table below is populated).

"Delete Measure": Select any cell within the rows containing the measure(s) you would like to delete.

"Clear All Measures": Click the button to clear the sheet and re-start your measure selection.

[Click here to see detailed cost effectiveness calculations by measure](#)

SOURCE	SECTOR	PROGRAM
CUSTOM - Archetype	Non-Residential	2015 DIL
CUSTOM - Archetype	Residential	2015 Heating and Cooling Program
CUSTOM - Archetype	Residential	2015 Residential New Construction
CUSTOM - Archetype	Residential	2015 Low Income Initiative
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
CUSTOM - Measure	Residential	Home Depot Appliance Market Uplift
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Non-Residential	Retrofit
IESO - Archetype	Residential	New Construction Program
IESO - Archetype	Non-Residential	Small Business Lighting
IESO - Archetype	Non-Residential	Small Business Lighting
IESO - Archetype	Non-Residential	Small Business Lighting
IESO - Archetype	Non-Residential	High Performance New Construction
IESO - Archetype	Residential	Home Assistance Program
IESO - Archetype	Residential	Heating and Cooling Program
IESO - Archetype	Residential	New Construction Program
IESO - Archetype	Non-Residential	High Performance New Construction
IESO - Archetype	Non-Residential	Small Business Lighting

IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
IN	IESO - Archetype	Non-Residential	Audit Funding
IN	IESO - Archetype	Non-Residential	Audit Funding
IN	IESO - Archetype	Non-Residential	Audit Funding
IN	IESO - Archetype	Non-Residential	Audit Funding
C	CUSTOM - Archetype	Residential	Coupon Program
C	CUSTOM - Archetype	Residential	Coupon Program
IF	IESO - Archetype	Residential	Heating and Cooling Program
IF	IESO - Archetype	Residential	Heating and Cooling Program
IF	IESO - Archetype	Residential	New Construction Program
IF	IESO - Archetype	Residential	New Construction Program
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	High Performance New Construction
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Measure	Non-Residential	Small Business Refrigeration
C	CUSTOM - Archetype	Non-Residential	Existing Building Commissioning
C	CUSTOM - Archetype	Non-Residential	Existing Building Commissioning
C	CUSTOM - Archetype	Non-Residential	Existing Building Commissioning
C	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
C	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
C	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
C	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
C	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
C	CUSTOM - Archetype	Non-Residential	Energy Manager
C	CUSTOM - Archetype	Non-Residential	Energy Manager
C	CUSTOM - Archetype	Non-Residential	Energy Manager
C	CUSTOM - Archetype	Non-Residential	Energy Manager
C	CUSTOM - Archetype	Non-Residential	Energy Manager
C	CUSTOM - Archetype	Residential	2015 Bi-Annual Retailer Event
C	CUSTOM - Archetype	Residential	2015 Coupon Program
C	CUSTOM - Archetype	Non-Residential	2015 PSUI Energy Manager Initiative
IN	IESO - Archetype	Non-Residential	Retrofit
IN	IESO - Archetype	Non-Residential	Retrofit
IN	IESO - Archetype	Non-Residential	Retrofit
IN	IESO - Archetype	Non-Residential	Retrofit

IN	IESO - Archetype	Non-Residential	Retrofit
IF	IESO - Archetype	Residential	Home Assistance Program
IN	IESO - Archetype	Non-Residential	Audit Funding
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	Small Business Lighting
IN	IESO - Archetype	Non-Residential	High Performance New Construction
IN	IESO - Archetype	Non-Residential	High Performance New Construction
C	CUSTOM - Archetype	Non-Residential	2015 Audit Funding
C	CUSTOM - Measure	Residential	Heating and Cooling Program
C	CUSTOM - Measure	Residential	Heating and Cooling Program
C	CUSTOM - Measure	Residential	Heating and Cooling Program
C	CUSTOM - Archetype	Non-Residential	2015 ERII Retrofit
C	CUSTOM - Archetype	Non-Residential	2015 PSUI Capital Incentive
C	CUSTOM - Archetype	Residential	Coupon Program
C	CUSTOM - Archetype	Residential	Coupon Program
C	CUSTOM - Archetype	Residential	Instant Discount Program
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Residential	ASHP - Ductless Pilot
C	CUSTOM - Archetype	Non-Residential	Retrocommissioning LDC Innovation
C	CUSTOM - Archetype	Residential	Whole Home Pilot Program
C	CUSTOM - Archetype	Non-Residential	SOE Energy Performance Pilot
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Non-Residential	Small Business Lighting
C	CUSTOM - Archetype	Residential	Home Assistance Program
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrades Prog
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Non-Residential	Retrofit
C	CUSTOM - Archetype	Residential	Instant Discount Program

king and evaluation purposes. The
 program costs are selected at this stage,
 or Input form or directly in the
 as within a program.

level.

ram year, variable program costs and incentive costs) for one measure.

for all measures within a program (users specify placeholder values for the program year, quantity,
 populated)

like to remove and click the button

ction

END-USE	CONSERVATION MEASURE
Lighting	New Participant GS >50
Space Cooling	CAC 15 SEER
New Home	NEW HOME CONSTRUCTION
2015 Low Income Initiative	HAP HOME
Space Cooling	CAC 14.5 SEER
Space Cooling	CAC 15 SEER
Space Cooling and Heating	ECM FURNACE
Lighting	PRESCRIPTIVE LIGHTING
Non-Lighting	PRESCRIPTIVE NON-LIGHTING
Lighting	ENGINEERED LIGHTING
Non-Lighting	ENGINEERED NON-LIGHTING
Lighting	CUSTOM LIGHTING
Household Appliances	ENERGY STAR® REFRIGERATOR
Space Cooling	CAC 14.5 SEER
Space Cooling	CAC 15 SEER
Space Cooling and Heating	ECM FURNACE
Lighting	PRESCRIPTIVE LIGHTING
Non-Lighting	PRESCRIPTIVE NON-LIGHTING
Lighting	ENGINEERED LIGHTING
Non-Lighting	ENGINEERED NON-LIGHTING
Lighting	CUSTOM LIGHTING
New Home	NEW HOME CONSTRUCTION
Lighting	Past Participant
Lighting	New Participant GS >50
Lighting	New Participant GS <50
HPNC Project	HPNC PROJECT
HAP Home	HAP HOME
Space Cooling and Heating	ECM FURNACE
New Home	NEW HOME CONSTRUCTION
HPNC Project	HPNC PROJECT
Lighting	Past Participant

Lighting	New Participant GS >50
Lighting	New Participant GS <50
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Miscellaneous	AUDIT PROJECT
Miscellaneous	AUDIT PROJECT
Miscellaneous	AUDIT PROJECT
Miscellaneous	AUDIT PROJECT
Miscellaneous	COUPONS
Miscellaneous	COUPONS
Space Cooling and Heating	ECM FURNACE
Space Cooling and Heating	ECM FURNACE
New Home	NEW HOME CONSTRUCTION
New Home	NEW HOME CONSTRUCTION
Lighting	Past Participant
Lighting	New Participant GS >50
Lighting	New Participant GS <50
Lighting	Past Participant
Lighting	New Participant GS >50
Lighting	New Participant GS <50
HPNC Project	HPNC PROJECT
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Refrigeration	ECM MOTORS FOR EVAPORATOR FANS (FREEZER WAL
Miscellaneous	EBCX Measures
Miscellaneous	EBCX Measures
Miscellaneous	EBCX Measures
Miscellaneous	M&T Measures
Miscellaneous	M&T Measures
Miscellaneous	M&T Measures
Miscellaneous	M&T Measures
Miscellaneous	M&T Measures
Non-Lighting	Energy Manager
Non-Lighting	Energy Manager
Non-Lighting	Energy Manager
Non-Lighting	Energy Manager
Non-Lighting	Energy Manager
Miscellaneous	BI-ANNUAL COUPONS
Miscellaneous	COUPONS
Non-Lighting	CUSTOM NON-LIGHTING
Lighting	PRESCRIPTIVE LIGHTING
Non-Lighting	PRESCRIPTIVE NON-LIGHTING
Lighting	ENGINEERED LIGHTING
Non-Lighting	ENGINEERED NON-LIGHTING

Lighting	CUSTOM LIGHTING
HAP Home	HAP HOME
Miscellaneous	AUDIT PROJECT
Lighting	Past Participant
Lighting	New Participant GS >50
Lighting	New Participant GS <50
HPNC Project	HPNC PROJECT
HPNC Project	HPNC PROJECT
Miscellaneous	AUDIT PROJECT
Space Cooling	SEER 18 CAC
Space Cooling	SEER 18 CAC
Space Cooling	SEER 18 CAC
Lighting	PRESCRIPTIVE LIGHTING
Non-Lighting	CUSTOM NON-LIGHTING
Miscellaneous	2016 Coupons
Miscellaneous	2017 Coupons
Miscellaneous	COUPONS
Non-Lighting	CUSTOM NON-LIGHTING
Space Cooling and Heating	Air Source Heat Pump 2016 Program
Miscellaneous	Retrocommissioning
Space Cooling and Heating	Whole Home Pilot Historical
Miscellaneous	PRESCRIPTIVE LIGHTING
Non-Lighting	CUSTOM NON-LIGHTING
Non-Lighting	CHP
Non-Lighting	CHP
Non-Lighting	CHP
Non-Lighting	CHP
Non-Lighting	CHP
Study	Studies in 2017 2018
Study	Progress Payment ADM - CHP
Study	Progress Payment ADM - CHP
Non-Lighting	CHP
Lighting 2019 Projects	PRESCRIPTIVE LIGHTING
Lighting 2019 Projects	CUSTOM LIGHTING
Lighting	2018 YTD Historical
HAP Home	HAP HOME
Advanced Payment	Advanced Payment FCA -EE
Study	Studies in 2017 2018
Lighting 2015 - 2018 projects	PRESCRIPTIVE LIGHTING
Lighting 2015 - 2018 projects	ENGINEERED LIGHTING
Lighting 2015 - 2018 projects	CUSTOM LIGHTING
2018 Progress to date	PRESCRIPTIVE LIGHTING
2018 Results PTD	COUPONS

MEASURE DESCRIPTION	BASE MEASURE
ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - CAC 15 SEER	HISTORICAL PERFORMANCE
ARCHETYPE - NEW HOME CONSTRUCTION	HISTORICAL PERFORMANCE
ARCHETYPE - HAP HOME	HISTORICAL PERFORMANCE
ARCHETYPE - CAC 14.5 SEER	HISTORICAL PERFORMANCE
ARCHETYPE - CAC 15 SEER	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE NON-LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED NON-LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - CUSTOM LIGHTING	HISTORICAL PERFORMANCE
Replace With New	Standard Refrigerator
ARCHETYPE - CAC 14.5 SEER	HISTORICAL PERFORMANCE
ARCHETYPE - CAC 15 SEER	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE NON-LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED NON-LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - CUSTOM LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - NEW HOME CONSTRUCTION	HISTORICAL PERFORMANCE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS <50	BUSINESS CASE
ARCHETYPE - HPNC PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - HAP HOME	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
ARCHETYPE - NEW HOME CONSTRUCTION	HISTORICAL PERFORMANCE
ARCHETYPE - HPNC PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE

ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS <50	BUSINESS CASE
Motor Size $\geq 1/20$ hp to < 1/10 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/20$ hp to < 1/10 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/20$ hp to < 1/10 hp	Permanent Split Capacitor (PSC)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Permanent Split Capacitor (PSC)
Motor Size > 1 hp	Permanent Split Capacitor (PSC)
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
ARCHETYPE - NEW HOME CONSTRUCTION	HISTORICAL PERFORMANCE
ARCHETYPE - NEW HOME CONSTRUCTION	HISTORICAL PERFORMANCE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS <50	BUSINESS CASE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS <50	BUSINESS CASE
ARCHETYPE - HPNC PROJECT	HISTORICAL PERFORMANCE
Motor Size $\geq 1/20$ hp to < 1/10 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/20$ hp to < 1/10 hp	Permanent Split Capacitor (PSC)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Permanent Split Capacitor (PSC)
Motor Size > 1 hp	Permanent Split Capacitor (PSC)
Motor Size $\geq 1/20$ hp to < 1/10 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/20$ hp to < 1/10 hp	Permanent Split Capacitor (PSC)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Shaded Pole Motor (SP)
Motor Size $\geq 1/10$ hp to ≤ 1 hp	Permanent Split Capacitor (PSC)
Motor Size > 1 hp	Permanent Split Capacitor (PSC)
EBCx Measures	HISTORICAL PERFORMANCE
EBCx Measures	HISTORICAL PERFORMANCE
EBCx Measures	HISTORICAL PERFORMANCE
M&T Measures	HISTORICAL PERFORMANCE
M&T Measures	HISTORICAL PERFORMANCE
M&T Measures	HISTORICAL PERFORMANCE
M&T Measures	HISTORICAL PERFORMANCE
M&T Measures	HISTORICAL PERFORMANCE
Energy Manager	Miscellaneous
Energy Manager	Miscellaneous
Energy Manager	Miscellaneous
Energy Manager	Miscellaneous
Energy Manager	Miscellaneous
ARCHETYPE - BI-ANNUAL COUPONS	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
BTM 1	NO BTM
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE NON-LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED NON-LIGHTING	HISTORICAL PERFORMANCE

ARCHETYPE - CUSTOM LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - HAP HOME	HISTORICAL PERFORMANCE
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS >50	BUSINESS CASE
ARCHETYPE - NEW PARTICIPANT GS <50	BUSINESS CASE
ARCHETYPE - HPNC PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - HPNC PROJECT	HISTORICAL PERFORMANCE
ARCHETYPE - AUDIT PROJECT	HISTORICAL PERFORMANCE
SEER 18 CAC	SEER 14.5 CAC
SEER 18 CAC	SEER 14.5 CAC
SEER 18 CAC	SEER 14.5 CAC
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
Custom Project	NO BTM
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE
Chrysler Chiller Project	NO BTM
Air Source Heat Pump	HISTORICAL PERFORMANCE
Retrocommissioning Program	HISTORICAL PERFORMANCE
ARCHETYPE - ECM FURNACE	HISTORICAL PERFORMANCE
Historical Result	HISTORICAL PERFORMANCE
ADM CHP	NO BTM
wfcu - chp 2017	NO BTM
h.lodge chp 2017	NO BTM
c.salt chp	NO BTM
intl nutrients	NO BTM
wfcu-ee	NO BTM
Detailed Engineering Studies	NO BTM
Progress Payment	NO BTM
Progress Payment	NO BTM
FAC - CHP (2019)	NO BTM
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - CUSTOM LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - PAST PARTICIPANT	BUSINESS CASE
ARCHETYPE - HAP HOME	HISTORICAL PERFORMANCE
Progress Payment	NO BTM
Detailed Engineering Studies	NO BTM
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - ENGINEERED LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - CUSTOM LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - PRESCRIPTIVE LIGHTING	HISTORICAL PERFORMANCE
ARCHETYPE - COUPONS	HISTORICAL PERFORMANCE

END USE LOAD PROFILE	PROGRAM YEAR	QUANTITY	PER UNIT INCENTIVE
PSP-Business-Commercial-Lighting_Small Business	2015	1	\$ -
PSP-Consumer-Residential-AC_Central	2015	1	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2015	1	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2015	1	\$ -
PSP-Consumer-Residential-AC_Central	2016	0	\$ 129.37
PSP-Consumer-Residential-AC_Central	2016	0	\$ 150.00
PSP-Consumer-Residential-Furnace_ECM_3	2016	0	\$ 7.96
PSP-Business-Commercial-Lighting_Interior_General	2016	225	\$ 750.00
PSP-Business-Commercial-Miscellaneous_Equipment	2016	100	\$ 342.33
PSP-Business-Commercial-Lighting_Interior_General	2016	251	\$ 1,000.00
PSP-Business-Commercial-Miscellaneous_Equipment	2016	50	\$ 3,000.00
PSP-Business-Commercial-Lighting_Interior_General	2016	10	\$ 1,000.00
PSP-Consumer-Residential-Refrigerators	2016	0	\$ -
PSP-Consumer-Residential-AC_Central	2017	0	\$ -
PSP-Consumer-Residential-AC_Central	2017	0	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2017	0	\$ -
PSP-Business-Commercial-Lighting_Interior_General	2017	100	\$ 12,884.07
PSP-Business-Commercial-Miscellaneous_Equipment	2017	74	\$ 15,000.00
PSP-Business-Commercial-Lighting_Interior_General	2017	85	\$ 5,000.00
PSP-Business-Commercial-Miscellaneous_Equipment	2017	30	\$ 30,000.00
PSP-Business-Commercial-Lighting_Interior_General	2017	1	\$ 30,000.00
PSP-Consumer-Residential-Furnace_ECM_3	2017	0	\$ -
PSP-Business-Commercial-Lighting_Small Business	2017	290	\$ 176.70
PSP-Business-Commercial-Lighting_Small Business	2017	0	\$ 1.00
PSP-Business-Commercial-Lighting_Small Business	2017	0	\$ 1.00
PSP-Business-Commercial-Lighting_Interior_General	2017	0	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2017	60	\$ 411.40
PSP-Consumer-Residential-Furnace_ECM_3	2018	0	\$ 250.00
PSP-Consumer-Residential-Furnace_ECM_3	2018	0	\$ 592.05
PSP-Business-Commercial-Lighting_Interior_General	2018	0	\$ -
PSP-Business-Commercial-Lighting_Small Business	2018	0	\$ 1,500.00

PSP-Business-Commercial-Lighting_Small Business	2018	0	\$ 1,062.22
PSP-Business-Commercial-Lighting_Small Business	2018	0	\$ 1,018.31
PSP-Business-Commercial-Refrigeration	2018	0	\$ -
PSP-Business-Commercial-Refrigeration	2018	0	\$ 300.00
PSP-Business-Commercial-Refrigeration	2018	0	\$ 300.00
PSP-Business-Commercial-Refrigeration	2018	0	\$ 600.00
PSP-Business-Commercial-Refrigeration	2018	0	\$ -
PSP-Business-Commercial-Refrigeration	2018	0	\$ 1.00
PSP-Business-Commercial-Miscellaneous_Equipment	2017	0	\$ 29,000,000,000.00
PSP-Business-Commercial-Miscellaneous_Equipment	2018	0	\$ 733,190,000.00
PSP-Business-Commercial-Miscellaneous_Equipment	2019	0	\$ 110.00
PSP-Business-Commercial-Miscellaneous_Equipment	2020	0	\$ 110.00
PSP-Consumer-Residential-Lighting	2019	0	\$ -
PSP-Consumer-Residential-Lighting	2020	0	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2019	0	\$ 250.00
PSP-Consumer-Residential-Furnace_ECM_3	2020	0	\$ 250.00
PSP-Consumer-Residential-Furnace_ECM_3	2019	0	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2020	0	\$ 592.05
PSP-Business-Commercial-Lighting_Small Business	2019	0	\$ 1,500.00
PSP-Business-Commercial-Lighting_Small Business	2019	0	\$ 1,062.22
PSP-Business-Commercial-Lighting_Small Business	2019	0	\$ 1,018.31
PSP-Business-Commercial-Lighting_Small Business	2020	0	\$ 1,500.00
PSP-Business-Commercial-Lighting_Small Business	2020	0	\$ 1,062.22
PSP-Business-Commercial-Lighting_Small Business	2020	0	\$ 1,018.31
PSP-Business-Commercial-Lighting_Interior_General	2019	0	\$ -
PSP-Business-Commercial-Refrigeration	2019	0	\$ 571.00
PSP-Business-Commercial-Refrigeration	2019	0	\$ -
PSP-Business-Commercial-Refrigeration	2019	0	\$ -
PSP-Business-Commercial-Refrigeration	2019	0	\$ -
PSP-Business-Commercial-Refrigeration	2019	0	\$ -
PSP-Business-Commercial-Refrigeration	2020	0	\$ 571.00
PSP-Business-Commercial-Refrigeration	2020	0	\$ -
PSP-Business-Commercial-Refrigeration	2020	0	\$ -
PSP-Business-Commercial-Refrigeration	2020	0	\$ -
PSP-Business-Commercial-Refrigeration	2020	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2018	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2019	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2020	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2016	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2017	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2018	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2019	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2020	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2016	1	\$ 90,000.00
PSP-Business-Commercial-Miscellaneous_Equipment	2017	0	\$ 1,546,389.18
PSP-Business-Commercial-Miscellaneous_Equipment	2018	1	\$ 655,113.05
PSP-Business-Commercial-Miscellaneous_Equipment	2019	1	\$ 491,334.79
PSP-Business-Commercial-Miscellaneous_Equipment	2020	0	\$ -
PSP-Consumer-Residential-Lighting	2015	1	\$ -
PSP-Consumer-Residential-Lighting	2015	1	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2015	1	\$ -
PSP-Business-Commercial-Lighting_Interior_General	2015	4	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2015	0	\$ -
PSP-Business-Commercial-Lighting_Interior_General	2015	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipment	2015	0	\$ -

PSP-Business-Commercial-Lighting_Interior_Gene	2015	0	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2016	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipm	2016	4	\$ 14,232.91
PSP-Business-Commercial-Lighting_Small Busines	2016	0	\$ 1,000.00
PSP-Business-Commercial-Lighting_Small Busines	2016	0	\$ -
PSP-Business-Commercial-Lighting_Small Busines	2016	0	\$ 1,000.00
PSP-Business-Commercial-Lighting_Interior_Gene	2016	0	\$ -
PSP-Business-Commercial-Lighting_Interior_Gene	2020	0	\$ -
PSP-Business-Commercial-Miscellaneous_Equipm	2015	1	\$ -
PSP-Consumer-Residential-AC_Central	2018	0	\$ 600.00
PSP-Consumer-Residential-AC_Central	2019	0	\$ 600.00
PSP-Consumer-Residential-AC_Central	2020	0	\$ 600.00
PSP-Business-Commercial-Lighting_Interior_Gene	2015	1	\$ -
PSP-Business-Commercial-Miscellaneous_Equipm	2015	1	\$ -
PSP-Consumer-Residential-Lighting	2016	1	\$ 376,624.00
PSP-Consumer-Residential-Lighting	2017	1	\$ 922,707.00
PSP-Consumer-Residential-Lighting	2017	1	\$ 227,145.00
PSP-Business-Commercial-Miscellaneous_Equipm	2017	1	\$ 893,866.00
PSP-Consumer-Residential-Furnace_ECM_3	2016	1	\$ -
PSP-Business-Commercial-Miscellaneous_Equipm	2016	1	\$ -
PSP-Consumer-Residential-Furnace_ECM_3	2017	1	\$ -
PSP-Business-Commercial-Lighting_Interior_Gene	2017	1	\$ -
PSP-Business-Commercial-Miscellaneous_Equipm	2020	1	\$ 3,170,000.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 944,800.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 506,200.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 2,522,625.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 78,000.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 74,364.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 353,273.00
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 3,000,000.00
PSP-Business-Commercial-Miscellaneous_Equipm	2019	1	\$ 6,000,000.00
PSP-Business-Commercial-Miscellaneous_Equipm	2019	1	\$ 1,126,800.00
PSP-Business-Commercial-Lighting_Interior_Gene	2019	0	\$ 111,409.62
PSP-Business-Commercial-Lighting_Interior_Gene	2019	2	\$ 7,930.40
PSP-Business-Commercial-Lighting_Small Busines	2018	1	\$ 67,391.62
PSP-Consumer-Residential-Furnace_ECM_3	2018	5	\$ 3,417.86
PSP-Business-Commercial-Miscellaneous_Equipm	2018	1	\$ 723,000.00
PSP-Business-Commercial-Miscellaneous_Equipm	2016	1	\$ 46,570.00
PSP-Business-Commercial-Lighting_Interior_Gene	2018	8	\$ 185,698.98
PSP-Business-Commercial-Lighting_Interior_Gene	2018	1	\$ 24,841.55
PSP-Business-Commercial-Lighting_Interior_Gene	2018	502	\$ 4,815.94
PSP-Business-Commercial-Lighting_Interior_Gene	2018	1	\$ 864,637.43
PSP-Consumer-Residential-Lighting	2018	1	\$ 331,157.00

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[illegible]

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Behind the Meter Project (True/False)	NET-TO-GROSS (ENERGY)	NET-TO-GROSS (DEMAND)	TOTAL INCENTIVE	TOTAL IESO VARIABLE PROGRAM COSTS	TOTAL LDC VARIABLE PROGRAM COSTS
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	0.513642797	0.513642797	\$0	\$0	\$0
FALSE	0.566530864	0.566530864	\$0	\$0	\$0
FALSE	0.468601202	0.468601202	\$0	\$0	\$0
FALSE	0.777	0.767	\$168,750	\$0	\$0
FALSE	0.682	0.692	\$34,233	\$0	\$0
FALSE	0.731	0.708	\$251,272	\$0	\$0
FALSE	0.701	0.682	\$150,000	\$0	\$0
FALSE	0.68	0.731	\$10,000	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	0.513642797	0.513642797	\$0	\$0	\$0
FALSE	0.566530864	0.566530864	\$0	\$0	\$0
FALSE	0.468601202	0.468601202	\$0	\$0	\$0
FALSE	0.777	0.767	\$1,288,407	\$0	\$0
FALSE	0.682	0.692	\$1,110,786	\$0	\$0
FALSE	0.731	0.708	\$425,000	\$0	\$0
FALSE	0.701	0.682	\$900,000	\$0	\$0
FALSE	0.68	0.731	\$30,000	\$0	\$0
FALSE	0.63	0.63	\$0	\$0	\$0
FALSE	0.94	0.94	\$51,188	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.54	0.54	\$0	\$0	\$0
FALSE	1	1	\$24,685	\$0	\$0
FALSE	0.468601202	0.468601202	\$0	\$0	\$0
FALSE	0.63	0.63	\$0	\$0	\$0
FALSE	0.54	0.54	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0

FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	1	1	\$2,900	\$0	\$0
FALSE	1	1	\$73,319	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	0.468601202	0.468601202	\$0	\$0	\$0
FALSE	0.468601202	0.468601202	\$0	\$0	\$0
FALSE	0.63	0.63	\$0	\$0	\$0
FALSE	0.63	0.63	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.54	0.54	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
TRUE	1	1	\$90,000	\$0	\$0
TRUE	1	1	\$489,842	\$0	\$0
TRUE	1	1	\$500,000	\$0	\$0
TRUE	1	1	\$250,000	\$0	\$0
TRUE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
TRUE	1	1	\$0	\$0	\$0
FALSE	0.777	0.767	\$0	\$0	\$0
FALSE	0.682	0.692	\$0	\$0	\$0
FALSE	0.731	0.708	\$0	\$0	\$0
FALSE	0.701	0.682	\$0	\$0	\$0

FALSE	0.68	0.731	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$51,787	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.94	0.94	\$0	\$0	\$0
FALSE	0.54	0.54	\$0	\$0	\$0
FALSE	0.54	0.54	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
TRUE	1	1	\$0	\$0	\$0
FALSE	1	1	\$376,624	\$36,876	\$0
FALSE	1	1	\$922,707	\$84,547	\$0
FALSE	1	1	\$227,145	\$10,637	\$0
TRUE	1	1	\$893,866	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
FALSE	1	1	\$0	\$0	\$0
TRUE	1	1	\$3,170,000	\$0	\$0
TRUE	1	1	\$944,800	\$0	\$0
TRUE	1	1	\$506,200	\$0	\$0
TRUE	1	1	\$2,522,625	\$0	\$0
TRUE	1	1	\$78,000	\$0	\$0
TRUE	1	1	\$74,364	\$0	\$0
TRUE	1	1	\$353,273	\$0	\$0
TRUE	1	1	\$3,000,000	\$0	\$0
TRUE	1	1	\$6,000,000	\$0	\$0
TRUE	1	1	\$1,126,800	\$0	\$0
FALSE	1	1	\$1,968	\$0	\$0
FALSE	0.68	0.731	\$15,340	\$0	\$0
FALSE	1	1	\$67,392	\$0	\$0
FALSE	1	1	\$15,863	\$0	\$0
TRUE	1	1	\$723,000	\$0	\$0
TRUE	1	1	\$46,570	\$0	\$0
FALSE	1	1	\$1,400,316	\$0	\$0
TRUE	1	1	\$24,842	\$0	\$0
FALSE	0.68	0.731	\$2,419,939	\$0	\$0
FALSE	1	1	\$842,286	\$0	\$0
FALSE	1	1	\$331,157	\$14,907	\$0

Total Resource Cost (TRC) Test				
TRC BENEFITS	TRC COSTS	TRC RATIO	TRC NET BENEFITS	SC BENEFITS
\$330.47	\$0.00	#DIV/0!	\$330.47	\$330.47
\$1,545,767.51	\$1,034,550.00	1.49	\$511,217.51	\$1,545,767.51
\$10,495.61	\$3,240.00	3.24	\$7,255.61	\$10,495.61
\$120,957.28	\$110,352.00	1.10	\$10,605.28	\$120,957.28
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$7,556,012.43	\$854,597.73	8.84	\$6,701,414.70	\$7,556,012.43
\$1,216,342.51	\$5,122,683.87	0.24	-\$3,906,341.35	\$1,216,342.51
\$8,030,817.39	\$2,899,517.74	2.77	\$5,131,299.65	\$8,030,817.39
\$721,895.46	\$997,130.23	0.72	-\$275,234.77	\$721,895.46
\$179,097.01	\$334,074.27	0.54	-\$154,977.25	\$179,097.01
\$499.80	\$12.01	41.61	\$487.79	\$499.80
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$3,550,544.38	\$372,373.74	9.53	\$3,178,170.64	\$3,550,544.38
\$952,340.74	\$3,719,088.58	0.26	-\$2,766,747.84	\$952,340.74
\$2,883,861.84	\$961,611.39	3.00	\$1,922,250.45	\$2,883,861.84
\$453,787.07	\$586,547.20	0.77	-\$132,760.13	\$453,787.07
\$18,638.02	\$32,752.38	0.57	-\$14,114.36	\$18,638.02
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$180,941.73	\$100,350.40	1.80	\$80,591.32	\$180,941.73
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$104,357.33	\$27,913.27	3.74	\$76,444.06	\$104,357.33
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00

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\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$115,252.12	\$206,846.65	0.56	-\$91,594.52	\$115,252.12
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$78,853.51	\$1.00	78853.51	\$78,852.51	\$78,853.51
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	\$0.00
\$8,629,810.07	\$401,200.00	21.51	\$8,228,610.07	\$8,629,810.07
\$1,551,024.03	\$538,034.29	2.88	\$1,012,989.75	\$1,551,024.03
\$2,450,324.51	\$140,608.82	17.43	\$2,309,715.69	\$2,450,324.51
\$2,115,942.19	\$2,741,895.42	0.77	-\$625,953.24	\$2,115,942.19
\$1,790,058.29	\$665,198.00	2.69	\$1,124,860.29	\$1,790,058.29
\$6,479,139.62	\$694,925.03	9.32	\$5,784,214.59	\$6,479,139.62
\$185,735.24	\$138,235.29	1.34	\$47,499.94	\$185,735.24
\$813,931.13	\$609,320.95	1.34	\$204,610.18	\$813,931.13
\$301,752.30	\$282,583.62	1.07	\$19,168.68	\$301,752.30
\$332,678.67	\$0.00	#DIV/0!	\$332,678.67	\$332,678.67
\$54,458,718.32	\$15,746,777.08	3.46	\$38,711,941.24	\$54,458,718.32
\$4,486,396.46	\$1,271,865.92	3.53	\$3,214,530.55	\$4,486,396.46
\$2,199,917.02	\$681,433.67	3.23	\$1,518,483.36	\$2,199,917.02
\$13,018,405.42	\$4,381,798.86	2.97	\$8,636,606.57	\$13,018,405.42
\$312,262.86	\$105,001.63	2.97	\$207,261.23	\$312,262.86
\$400,419.73	\$100,106.94	4.00	\$300,312.79	\$400,419.73
\$291.73	\$0.00	#DIV/0!	\$291.73	\$291.73
\$291.73	\$0.00	#DIV/0!	\$291.73	\$291.73
\$291.73	\$0.00	#DIV/0!	\$291.73	\$291.73
\$4,707,136.18	\$1,487,127.18	3.17	\$3,220,009.00	\$4,707,136.18
\$11,119.05	\$0.00	#DIV/0!	\$11,119.05	\$11,119.05
\$37,044.67	\$60,892.37	0.61	-\$23,847.71	\$37,044.67
\$313,725.82	\$261,844.05	1.20	\$51,881.77	\$313,725.82
\$2,743.57	\$0.00	#DIV/0!	\$2,743.57	\$2,743.57
\$291.73	\$0.00	#DIV/0!	\$291.73	\$291.73
\$272.13	\$0.00	#DIV/0!	\$272.13	\$272.13
\$4,661,463.06	\$0.00	#DIV/0!	\$4,661,463.06	\$4,661,463.06
\$405,801.09	\$219,299.86	1.85	\$186,501.22	\$405,801.09
\$9,481,112.46	\$16,134,902.94	0.59	-\$6,653,790.48	\$9,481,112.46
\$602,186.78	\$0.00	#DIV/0!	\$602,186.78	\$602,186.78
\$1,818,995.41	\$656,178.62	2.77	\$1,162,816.79	\$1,818,995.41

Societal Cost (SC) Test			Program Administration	
SC COSTS	SC RATIO	SC NET BENEFITS	PAC BENEFITS	PAC COSTS
\$0.00	#DIV/0!	\$330.47	\$287.37	\$0.00
\$1,034,550.00	1.49	\$511,217.51	\$1,344,145.66	\$0.00
\$3,240.00	3.24	\$7,255.61	\$9,126.62	\$0.00
\$110,352.00	1.10	\$10,605.28	\$105,180.24	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$854,597.73	8.84	\$6,701,414.70	\$6,228,552.83	\$165,441.18
\$5,122,683.87	0.24	-\$3,906,341.35	\$1,057,689.14	\$33,561.76
\$2,899,517.74	2.77	\$5,131,299.65	\$6,628,787.24	\$246,345.57
\$997,130.23	0.72	-\$275,234.77	\$627,735.18	\$147,058.82
\$334,074.27	0.54	-\$154,977.25	\$141,139.09	\$9,803.92
\$12.01	41.61	\$487.79	\$434.61	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$372,373.74	9.53	\$3,178,170.64	\$2,935,477.56	\$1,238,376.59
\$3,719,088.58	0.26	-\$2,766,747.84	\$828,122.38	\$1,067,652.83
\$961,611.39	3.00	\$1,922,250.45	\$2,387,775.43	\$408,496.73
\$586,547.20	0.77	-\$132,760.13	\$394,597.45	\$865,051.90
\$32,752.38	0.57	-\$14,114.36	\$14,747.23	\$28,835.06
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$100,350.40	1.80	\$80,591.32	\$157,340.63	\$49,200.31
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$27,913.27	3.74	\$76,444.06	\$90,745.51	\$23,726.45
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00

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\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$206,846.65	0.56	-\$91,594.52	\$61,571.21	\$50,771.57
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$1.00	78853.51	\$78,852.51	\$53,228.66	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$0.00	#DIV/0!	\$0.00	\$0.00	\$0.00
\$401,200.00	21.51	\$8,228,610.07	\$7,502,227.04	\$0.00
\$538,034.29	2.88	\$1,012,989.75	\$1,348,716.55	\$0.00
\$140,608.82	17.43	\$2,309,715.69	\$2,130,716.97	\$405,392.16
\$2,741,895.42	0.77	-\$625,953.24	\$1,839,949.73	\$968,141.10
\$665,198.00	2.69	\$1,124,860.29	\$1,556,572.43	\$228,548.64
\$694,925.03	9.32	\$5,784,214.59	\$5,634,034.45	\$859,156.09
\$138,235.29	1.34	\$47,499.94	\$161,508.90	\$0.00
\$609,320.95	1.34	\$204,610.18	\$692,426.58	\$0.00
\$282,583.62	1.07	\$19,168.68	\$262,393.30	\$0.00
\$0.00	#DIV/0!	\$332,678.67	\$287,330.17	\$0.00
\$15,746,777.08	3.46	\$38,711,941.24	\$47,355,407.23	\$2,871,166.67
\$1,271,865.92	3.53	\$3,214,530.55	\$3,901,214.31	\$890,306.14
\$681,433.67	3.23	\$1,518,483.36	\$1,912,971.32	\$477,003.57
\$4,381,798.86	2.97	\$8,636,606.57	\$11,320,352.54	\$2,377,125.88
\$105,001.63	2.97	\$207,261.23	\$271,532.93	\$73,501.14
\$100,106.94	4.00	\$300,312.79	\$348,191.07	\$70,074.86
\$0.00	#DIV/0!	\$291.73	\$253.68	\$332,897.04
\$0.00	#DIV/0!	\$291.73	\$253.68	\$2,826,967.00
\$0.00	#DIV/0!	\$291.73	\$253.68	\$5,543,072.56
\$1,487,127.18	3.17	\$3,220,009.00	\$4,093,161.90	\$1,040,989.03
\$0.00	#DIV/0!	\$11,119.05	\$9,634.20	\$1,818.13
\$60,892.37	0.61	-\$23,847.71	\$29,389.19	\$14,171.47
\$261,844.05	1.20	\$51,881.77	\$272,805.06	\$63,504.63
\$0.00	#DIV/0!	\$2,743.57	\$2,385.71	\$14,948.06
\$0.00	#DIV/0!	\$291.73	\$253.68	\$681,299.05
\$0.00	#DIV/0!	\$272.13	\$236.64	\$45,656.86
\$0.00	#DIV/0!	\$4,661,463.06	\$4,038,699.16	\$1,319,549.21
\$219,299.86	1.85	\$186,501.22	\$350,940.35	\$23,408.75
\$16,134,902.94	0.59	-\$6,653,790.48	\$7,510,945.06	\$2,280,362.32
\$0.00	#DIV/0!	\$602,186.78	\$521,735.60	\$793,704.91
\$656,178.62	2.77	\$1,162,816.79	\$1,581,735.14	\$326,103.84

or Cost (PAC) Test		Participant Cost (PC) Test			
PAC RATIO	PAC NET BENEFITS	PC BENEFITS	PC COSTS	PC RATIO	PC NET BENEFITS
#DIV/0!	\$287.37	\$944.09	\$0.00	#DIV/0!	\$944.09
#DIV/0!	\$1,344,145.66	\$1,438,303.06	\$1,034,550.00	1.39	\$403,753.06
#DIV/0!	\$9,126.62	\$14,735.30	\$3,240.00	4.55	\$11,495.30
#DIV/0!	\$105,180.24	\$224,224.94	\$110,352.00	2.03	\$113,872.94
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
37.65	\$6,063,111.65	\$14,939,521.74	\$1,099,868.38	13.58	\$13,839,653.36
31.51	\$1,024,127.38	\$1,870,490.28	\$7,511,266.67	0.25	-\$5,640,776.39
26.91	\$6,382,441.67	\$18,756,212.12	\$3,966,508.54	4.73	\$14,789,703.58
4.27	\$480,676.36	\$1,575,501.61	\$1,422,439.71	1.11	\$153,061.91
14.40	\$131,335.17	\$497,421.64	\$491,285.69	1.01	\$6,135.95
#DIV/0!	\$434.61	\$1,189.36	\$12.01	99.02	\$1,177.35
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
2.37	\$1,697,100.97	\$7,798,721.10	\$479,245.48	16.27	\$7,319,475.62
0.78	-\$239,530.45	\$2,427,019.02	\$5,453,209.06	0.45	-\$3,026,190.04
5.85	\$1,979,278.69	\$6,653,878.14	\$1,315,473.86	5.06	\$5,338,404.29
0.46	-\$470,454.45	\$1,721,535.74	\$836,729.24	2.06	\$884,806.50
0.51	-\$14,087.84	\$77,527.57	\$48,165.26	1.61	\$29,362.31
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
3.20	\$108,140.32	\$380,326.53	\$106,755.75	3.56	\$273,570.78
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
3.82	\$67,019.06	\$71,477.72	\$27,913.27	2.56	\$43,564.45
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00

#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
0.00	-\$2,787.39	\$2,787.39	\$0.01	500123.31	\$2,787.39
0.00	-\$69,088.14	\$69,093.98	\$5.46	12645.01	\$69,088.52
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
3.79	\$245,912.37	\$903,104.77	\$0.98	921166.86	\$903,103.79
0.25	-\$355,013.74	\$728,293.27	\$0.30	2392045.42	\$728,292.96
0.60	-\$186,533.90	\$1,088,498.22	\$0.72	1513472.33	\$1,088,497.50
0.84	-\$36,611.02	\$640,104.44	\$0.47	1361723.82	\$640,103.97
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$591,615.93	\$1,579,097.53	\$441,248.73	3.58	\$1,137,848.80
#DIV/0!	\$263,672.58	\$747,195.05	\$2.00	373597.52	\$747,193.05
#DIV/0!	\$57,115.15	\$117,495.59	\$100,000.00	1.17	\$17,495.59
#DIV/0!	\$102,816.64	\$256,073.49	\$19,422.24	13.18	\$236,651.26
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00

#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
1.21	\$10,799.64	\$189,967.05	\$206,846.65	0.92	-\$16,879.59
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$53,228.66	\$110,795.84	\$1.00	110795.84	\$110,794.84
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$0.00	\$0.00	\$0.00	#DIV/0!	\$0.00
#DIV/0!	\$7,502,227.04	\$16,171,268.12	\$401,200.00	40.31	\$15,770,068.12
#DIV/0!	\$1,348,716.55	\$3,059,080.95	\$538,034.29	5.69	\$2,521,046.66
5.26	\$1,725,324.81	\$6,153,267.57	\$104,455.88	58.91	\$6,048,811.69
1.90	\$871,808.63	\$5,533,217.63	\$2,660,631.49	2.08	\$2,872,586.15
6.81	\$1,328,023.79	\$4,157,693.30	\$654,974.05	6.35	\$3,502,719.26
6.56	\$4,774,878.36	\$10,106,802.52	\$694,925.03	14.54	\$9,411,877.49
#DIV/0!	\$161,508.90	\$282,101.01	\$138,235.29	2.04	\$143,865.72
#DIV/0!	\$692,426.58	\$1,305,055.52	\$609,320.95	2.14	\$695,734.57
#DIV/0!	\$262,393.30	\$463,456.76	\$282,583.62	1.64	\$180,873.14
#DIV/0!	\$287,330.17	\$938,819.97	\$0.00	#DIV/0!	\$938,819.97
16.49	\$44,484,240.57	\$102,078,387.35	\$15,746,777.08	6.48	\$86,331,610.27
4.38	\$3,010,908.17	\$9,179,246.19	\$1,271,865.92	7.22	\$7,907,380.27
4.01	\$1,435,967.76	\$4,541,687.17	\$681,433.67	6.66	\$3,860,253.50
4.76	\$8,943,226.66	\$26,423,918.17	\$4,381,798.86	6.03	\$22,042,119.31
3.69	\$198,031.78	\$649,737.64	\$105,001.63	6.19	\$544,736.01
4.97	\$278,116.21	\$810,317.13	\$100,106.94	8.09	\$710,210.19
0.00	-\$332,643.36	\$332,897.22	\$0.00	#DIV/0!	\$332,897.22
0.00	-\$2,826,713.32	\$2,826,967.19	\$0.00	#DIV/0!	\$2,826,967.19
0.00	-\$5,542,818.87	\$5,543,072.74	\$0.00	#DIV/0!	\$5,543,072.74
3.93	\$3,052,172.87	\$9,648,688.85	\$1,487,127.18	6.49	\$8,161,561.67
5.30	\$7,816.07	\$23,891.98	\$0.00	#DIV/0!	\$23,891.98
2.07	\$15,217.73	\$107,976.99	\$89,547.61	1.21	\$18,429.39
4.30	\$209,300.43	\$503,984.06	\$261,844.05	1.92	\$242,140.02
0.16	-\$12,562.35	\$22,450.56	\$0.00	#DIV/0!	\$22,450.56
0.00	-\$681,045.37	\$681,299.23	\$0.00	#DIV/0!	\$681,299.23
0.01	-\$45,420.23	\$45,657.05	\$0.00	#DIV/0!	\$45,657.05
3.06	\$2,719,149.95	\$10,763,320.88	\$0.00	#DIV/0!	\$10,763,320.88
14.99	\$327,531.60	\$638,343.91	\$219,299.86	2.91	\$419,044.05
3.29	\$5,230,582.74	\$26,706,791.98	\$23,727,798.44	1.13	\$2,978,993.53
0.66	-\$271,969.31	\$2,013,689.78	\$0.00	#DIV/0!	\$2,013,689.78
4.85	\$1,255,631.30	\$4,235,192.06	\$642,131.42	6.60	\$3,593,060.64

Rate Impact Measure (RIM) Test				
RIM BENEFITS	RIM COSTS	RIM RATIO	RIM NET BENEFITS	LC BENEFITS (DEMAND)
\$287.37	\$944.09	0.30	-\$656.73	0.00
\$1,344,145.66	\$1,438,303.06	0.93	-\$94,157.41	5189.01
\$9,126.62	\$14,735.30	0.62	-\$5,608.68	28.90
\$105,180.24	\$224,224.94	0.47	-\$119,044.70	266.76
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$6,570,445.59	\$11,644,901.78	0.56	-\$5,074,456.18	15946.69
\$1,057,689.14	\$1,286,347.01	0.82	-\$228,657.87	3620.16
\$6,983,319.47	\$13,777,058.02	0.51	-\$6,793,738.55	15507.18
\$627,735.18	\$1,148,397.22	0.55	-\$520,662.04	1723.58
\$155,736.53	\$341,383.97	0.46	-\$185,647.44	243.31
\$434.61	\$1,189.36	0.37	-\$754.75	0.39
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$3,087,429.90	\$6,335,764.27	0.49	-\$3,248,334.38	6948.45
\$828,122.38	\$1,994,740.57	0.42	-\$1,166,618.19	2628.25
\$2,507,705.95	\$4,973,870.54	0.50	-\$2,466,164.60	5142.88
\$394,597.45	\$1,465,447.07	0.27	-\$1,070,849.62	1013.87
\$16,206.97	\$61,945.97	0.26	-\$45,739.00	23.85
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$157,340.63	\$360,458.95	0.44	-\$203,118.32	310.32
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$90,745.51	\$71,477.72	1.27	\$19,267.79	389.64
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00

[illegible]

\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$100,219.24	\$189,967.05	0.53	-\$89,747.81	178.18
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$68,568.27	\$110,795.84	0.62	-\$42,227.57	187.68
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$0.00	\$0.00	#DIV/0!	\$0.00	0.00
\$7,504,182.67	\$16,171,268.12	0.46	-\$8,667,085.45	17225.80
\$1,348,716.55	\$3,059,080.95	0.44	-\$1,710,364.40	2304.81
\$2,130,716.97	\$6,189,420.51	0.34	-\$4,058,703.55	2708.69
\$1,839,949.73	\$5,614,481.57	0.33	-\$3,774,531.84	2304.62
\$1,556,572.43	\$4,167,917.26	0.37	-\$2,611,344.83	1936.12
\$5,634,034.45	\$10,106,802.52	0.56	-\$4,472,768.07	13083.51
\$161,508.90	\$282,101.01	0.57	-\$120,592.11	380.32
\$707,766.20	\$1,305,055.52	0.54	-\$597,289.32	2118.66
\$262,393.30	\$463,456.76	0.57	-\$201,063.46	547.64
\$289,285.80	\$938,819.97	0.31	-\$649,534.17	0.00
\$47,355,407.23	\$102,078,387.35	0.46	-\$54,722,980.12	69565.77
\$3,901,214.31	\$9,179,246.19	0.43	-\$5,278,031.87	6057.77
\$1,912,971.32	\$4,541,687.17	0.42	-\$2,628,715.84	2970.18
\$11,320,352.54	\$26,423,918.17	0.43	-\$15,103,565.63	17586.31
\$271,532.93	\$649,737.64	0.42	-\$378,204.71	422.63
\$348,191.07	\$810,317.13	0.43	-\$462,126.06	540.03
\$253.68	\$332,897.22	0.00	-\$332,643.54	1.17
\$253.68	\$2,826,967.19	0.00	-\$2,826,713.51	1.17
\$253.68	\$5,543,072.74	0.00	-\$5,542,819.06	1.15
\$4,093,161.90	\$9,648,688.85	0.42	-\$5,555,526.96	6180.69
\$9,668.74	\$23,891.98	0.40	-\$14,223.23	12.47
\$32,212.75	\$77,959.22	0.41	-\$45,746.47	44.35
\$272,805.06	\$503,984.06	0.54	-\$231,179.01	670.34
\$2,385.71	\$22,450.56	0.11	-\$20,064.85	0.00
\$253.68	\$681,299.23	0.00	-\$681,045.55	1.17
\$236.64	\$45,657.05	0.01	-\$45,420.41	1.22
\$4,053,446.14	\$10,763,320.88	0.38	-\$6,709,874.74	5430.68
\$352,870.51	\$638,343.91	0.55	-\$285,473.40	809.99
\$8,244,445.62	\$18,890,334.49	0.44	-\$10,645,888.87	11751.17
\$523,640.68	\$2,013,689.78	0.26	-\$1,490,049.11	701.56
\$1,581,735.14	\$4,249,239.26	0.37	-\$2,667,504.12	1898.15

Levelized Cost (LC) Metric (\$/kW or \$/kWh)			
LC BENEFITS (ENERGY)	LC COSTS	LC METRIC (DEMAND)	LC METRIC (ENERGY)
6861.76	\$0.00	#DIV/0!	\$0.00
9824611.10	\$0.00	#DIV/0!	\$0.00
104297.64	\$0.00	#DIV/0!	\$0.00
1629691.15	\$0.00	#DIV/0!	\$0.00
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
80863367.46	\$165,441.18	\$0.10	\$0.00
8511919.34	\$33,561.76	\$0.11	\$0.00
96581316.63	\$246,345.57	\$0.06	\$0.00
6803489.81	\$147,058.82	\$0.01	\$0.02
2351683.32	\$9,803.92	\$0.02	\$0.00
8198.30	\$0.00	#DIV/0!	\$0.00
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
35234582.77	\$1,238,376.59	\$0.01	\$0.04
6179686.82	\$1,067,652.83	\$0.00	\$0.17
32030738.31	\$408,496.73	\$0.01	\$0.01
4002052.83	\$865,051.90	\$0.00	\$0.22
230557.19	\$28,835.06	\$0.00	\$0.13
0.00	\$0.00	#DIV/0!	#DIV/0!
2185050.80	\$49,200.31	\$0.01	\$0.02
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
335216.22	\$23,726.45	\$0.02	\$0.07
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!

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0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
1023157.90	\$50,771.57	\$0.00	\$0.05
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
816785.04	\$0.00	#DIV/0!	\$0.00
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
0.00	\$0.00	#DIV/0!	#DIV/0!
116131552.22	\$0.00	#DIV/0!	\$0.00
20617358.42	\$0.00	#DIV/0!	\$0.00
41744514.06	\$405,392.16	\$0.01	\$0.01
32983513.14	\$968,141.10	\$0.00	\$0.03
27964850.51	\$228,548.64	\$0.01	\$0.01
59970937.02	\$859,156.09	\$0.02	\$0.01
1877383.51	\$0.00	#DIV/0!	\$0.00
9462790.59	\$0.00	#DIV/0!	\$0.00
3025653.78	\$0.00	#DIV/0!	\$0.00
6493325.17	\$0.00	#DIV/0!	\$0.00
609352794.37	\$2,871,166.67	\$0.02	\$0.00
52752524.27	\$890,306.14	\$0.01	\$0.02
25868484.88	\$477,003.57	\$0.01	\$0.02
153038746.42	\$2,377,125.88	\$0.01	\$0.02
3667287.93	\$73,501.14	\$0.01	\$0.02
4711054.50	\$70,074.86	\$0.01	\$0.01
1.17	\$332,897.04	\$0.00	\$283,561.38
1.17	\$2,826,967.00	\$0.00	\$2,408,007.81
1.15	\$5,543,072.56	\$0.00	\$4,816,015.61
53783202.09	\$1,040,989.03	\$0.01	\$0.02
147296.95	\$1,818.13	\$0.01	\$0.01
428645.93	\$14,171.47	\$0.00	\$0.03
3038639.80	\$63,504.63	\$0.01	\$0.02
51755.88	\$14,948.06	\$0.00	\$0.29
1.17	\$681,299.05	\$0.00	\$580,329.88
1.22	\$45,656.86	\$0.00	\$37,380.31
64136919.67	\$1,319,549.21	\$0.00	\$0.02
4241828.53	\$23,408.75	\$0.03	\$0.01
113580080.38	\$2,280,362.32	\$0.01	\$0.02
8285468.42	\$793,704.91	\$0.00	\$0.10
27416520.11	\$326,103.84	\$0.01	\$0.01

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CResid	CUSTOM - Archetype	Residential	Heating and Cooling Program
CResid	CUSTOM - Archetype	Residential	Heating and Cooling Program
CResid	CUSTOM - Archetype	Residential	Heating and Cooling Program
CResid	CUSTOM - Archetype	Residential	2015 Coupon Program
CResid	CUSTOM - Archetype	Residential	2015 Heating and Cooling Prog
CNon-F	CUSTOM - Archetype	Non-Residential	2015 Audit Funding
CNon-F	CUSTOM - Archetype	Non-Residential	2015 ERII Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	2015 DIL
CNon-F	CUSTOM - Archetype	Non-Residential	2015 PSUI Energy Manager In
CNon-F	CUSTOM - Archetype	Non-Residential	2015 Audit Funding
CResid	CUSTOM - Archetype	Residential	Coupon Program
CResid	CUSTOM - Archetype	Residential	Heating and Cooling Program
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Audit Funding
CNon-F	CUSTOM - Measure	Non-Residential	High Performance New Constr
CResid	CUSTOM - Archetype	Residential	Home Assistance Program
CResid	CUSTOM - Archetype	Residential	Instant Discount Program
CResid	CUSTOM - Archetype	Residential	Heating and Cooling Program
CNon-F	CUSTOM - Measure	Non-Residential	Small Business Lighting
CResid	CUSTOM - Measure	Residential	Home Depot Appliance Market
IReside	IESO - Archetype	Residential	GOF ST Rebate
IReside	IESO - Archetype	Residential	GOF ST Rebate
CNon-F	CUSTOM - Archetype	Non-Residential	Energy Manager
CNon-F	CUSTOM - Archetype	Non-Residential	Existing Building Commissionin
CNon-F	CUSTOM - Archetype	Non-Residential	Monitoring and Targeting
CResid	CUSTOM - Archetype	Residential	2015 Residential New Construc
CResid	CUSTOM - Archetype	Residential	2015 Low Income Initiative
CNon-F	CUSTOM - Archetype	Non-Residential	2015 New Construction and Ma
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Loblaws P4P Pilot
CResid	CUSTOM - Archetype	Residential	2015 Bi-Annual Retailer Event
CResid	CUSTOM - Archetype	Residential	Coupon Program
CResid	CUSTOM - Archetype	Residential	Coupon Program
CResid	CUSTOM - Measure	Residential	Clothesline Instant Savings Pro
CResid	CUSTOM - Measure	Residential	Heating and Cooling Program
CNon-F	CUSTOM - Archetype	Non-Residential	2015 PSUI Capital Incentive
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CResid	CUSTOM - Archetype	Residential	ASHP - Ductless Pilot
CNon-F	CUSTOM - Measure	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Retrocommissioning LDC Inno
CResid	CUSTOM - Archetype	Residential	Whole Home Pilot Program
CNon-F	CUSTOM - Archetype	Non-Residential	SOE Energy Performance Pilot
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit

CNon-F	CUSTOM - Archetype	Non-Residential	Small Business Lighting
CNon-F	CUSTOM - Archetype	Non-Residential	Process and Systems Upgrade
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CNon-F	CUSTOM - Archetype	Non-Residential	Retrofit
CResid	CUSTOM - Archetype	Residential	Instant Discount Program

in the "Program Design" worksheet. To add custom measures, select the rows of measures you wish to modify. Measures will be copied to the bottom of the sheet and the user can modify the fields of this sheet. Before adding a custom measure to ensure no errors will occur when cost effectiveness is run.

worksheet.

END-USE	CONSERVATION MEASURE	MEASURE DESCRIPTION
Lighting	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
Non-Lighting	PRESCRIPTIVE NON-LIGHTING	ARCHETYPE - PRESCRIPTIVE NON-LIGHTING
Lighting	ENGINEERED LIGHTING	ARCHETYPE - ENGINEERED LIGHTING
Non-Lighting	ENGINEERED NON-LIGHTING	ARCHETYPE - ENGINEERED NON-LIGHTING
Lighting	CUSTOM LIGHTING	ARCHETYPE - CUSTOM LIGHTING
Space Cooling	CAC 14.5 SEER	ARCHETYPE - CAC 14.5 SEER
Space Cooling	CAC 15 SEER	ARCHETYPE - CAC 15 SEER
Space Cooling and Heating	ECM FURNACE	ARCHETYPE - ECM FURNACE
Space Cooling	AIR CONDITIONER - ROOM	ARCHETYPE - AIR CONDITIONER ROOM
Space Cooling and Heating	DEHUMIDIFIER	ARCHETYPE - DEHUMIDIFIER
Household Appliances	FREEZER	ARCHETYPE - FREEZER
Household Appliances	REFRIGERATOR	ARCHETYPE - REFRIGERATOR
Miscellaneous	COUPONS	ARCHETYPE - COUPONS
Miscellaneous	BI-ANNUAL COUPONS	ARCHETYPE - BI-ANNUAL COUPONS
New Home	NEW HOME CONSTRUCTION	ARCHETYPE - NEW HOME CONSTRUCTION
HAP Home	HAP HOME	ARCHETYPE - HAP HOME
HPNC Project	HPNC PROJECT	ARCHETYPE - HPNC PROJECT
Lighting	Past Participant	ARCHETYPE - PAST PARTICIPANT
Lighting	New Participant GS >50	ARCHETYPE - NEW PARTICIPANT GS >50
Lighting	New Participant GS <50	ARCHETYPE - NEW PARTICIPANT GS <50
Miscellaneous	AUDIT PROJECT	ARCHETYPE - AUDIT PROJECT
Agribusiness	SINGLE CREEP HEAT PAD	Up to 100 Watt maximum
Agribusiness	DOUBLE CREEP HEAT PAD	Up to 200 Watt maximum
Agribusiness	HIGH TEMPERATURE CUTOUT THERMOSTAT	Operating range 24 to 40 Celsius
Agribusiness	CREEP HEAT CONTROLLER	For use in animal housing facilities
Agribusiness	HIGH EFFICIENCY VENTILATION EXHAUST FAN	18-20" Fan
Agribusiness	HIGH EFFICIENCY VENTILATION EXHAUST FAN	24" Fans
Agribusiness	HIGH EFFICIENCY VENTILATION EXHAUST FAN	36" Fans
Agribusiness	HIGH EFFICIENCY VENTILATION EXHAUST FAN	≥ 48" Fans
Agribusiness	HIGH VOLUME LOW SPEED FAN	≥10 ft to <11 ft, 1 hp
Agribusiness	HIGH VOLUME LOW SPEED FAN	≥11 ft to <19 ft, 1.5 hp
Agribusiness	HIGH VOLUME LOW SPEED FAN	≥19 ft to <25 ft, 2 hp
Agribusiness	LOW ENERGY LIVESTOCK WATERING SYSTEM	300 W maximum
Agribusiness	PHOTOCELL AND TIMER FOR LIGHTING	-
Agribusiness	DUAL AND NATURAL EXHAUST VENTILATION	Egg layers
Agribusiness	DUAL AND NATURAL EXHAUST VENTILATION	Chicken broilers

Agribusiness	DUAL AND NATURAL EXHAUST VE	Turkeys
Agribusiness	DUAL AND NATURAL EXHAUST VE	Swine - breeding & gestation
Agribusiness	DUAL AND NATURAL EXHAUST VE	Swine - growing & finishing
Agribusiness	DUAL AND NATURAL EXHAUST VE	Dairy -tie stall, year round housing
Agribusiness	DUAL AND NATURAL EXHAUST VE	Dairy -tie stall, outside in summer
Agribusiness	DUAL AND NATURAL EXHAUST VE	Greenhouse - Flowers
Agribusiness	SINGLE CREEP HEAT PAD	Up to 100 Watt maximum
Agribusiness	DOUBLE CREEP HEAT PAD	Up to 200 Watt maximum
Agribusiness	LOW ENERGY LIVESTOCK WATER	300 W maximum
Agribusiness	DUAL AND NATURAL EXHAUST VE	Egg layers
Agribusiness	DUAL AND NATURAL EXHAUST VE	Chicken broilers
Agribusiness	DUAL AND NATURAL EXHAUST VE	Turkeys
Agribusiness	DUAL AND NATURAL EXHAUST VE	Swine - breeding & gestation
Agribusiness	DUAL AND NATURAL EXHAUST VE	Swine - growing & finishing
Agribusiness	DUAL AND NATURAL EXHAUST VE	Dairy -tie stall, year round housing
Agribusiness	DUAL AND NATURAL EXHAUST VE	Greenhouse - Flowers
Lighting	REFRIGERATED DISPLAY CASE LE	Per linear foot
Lighting -Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Hospital	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Large Hotel (Corridor/Lo	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Large Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Large Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Nursing Home	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 and ≤600 lumens
Lighting -Other Commercial Build	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Other Hotel Motel (Corri	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Other Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Other Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Restaurant	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Schools	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -University Colleges	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Warehouse Wholesale	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output > 350 an
Lighting -Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Hospital	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Large Hotel (Corridor/Lo	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Large Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Large Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Nursing Home	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Other Commercial Build	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Other Hotel Motel (Corri	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Other Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Other Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Restaurant	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Schools	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -University Colleges	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Warehouse Wholesale	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >600 an
Lighting -Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Hospital	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Large Hotel (Corridor/Lo	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Large Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Large Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Nursing Home	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Other Commercial Build	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Other Hotel Motel (Corri	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur
Lighting -Other Non-Food Retail	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lur

Lighting -Other Office	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lumens
Lighting -Restaurant	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lumens
Lighting -Schools	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lumens
Lighting -University Colleges	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lumens
Lighting -Warehouse Wholesale	LED RECESSED DOWNLIGHTS	LED Downlight with Light Output >800 lumens
Lighting -Food Retail	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Hospital	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Large Hotel (Corridor/Lobby)	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Large Non-Food Retail	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Large Office	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Nursing Home	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Other Commercial Building	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Other Hotel Motel (Corridor/Lobby)	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Other Non-Food Retail	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Other Office	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Restaurant	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Schools	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -University Colleges	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Warehouse Wholesale	LED LIGHT BULB	LED MR16 lamp ≤6W
Lighting -Food Retail	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Hospital	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Large Hotel (Corridor/Lobby)	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Large Non-Food Retail	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Large Office	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Nursing Home	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Other Commercial Building	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Other Hotel Motel (Corridor/Lobby)	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Other Non-Food Retail	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Other Office	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Restaurant	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Schools	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -University Colleges	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Warehouse Wholesale	LED LIGHT BULB	LED MR16 lamp 7W to 10 W
Lighting -Food Retail	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Hospital	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Large Hotel (Corridor/Lobby)	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Large Non-Food Retail	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Large Office	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Nursing Home	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Other Commercial Building	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Other Hotel Motel (Corridor/Lobby)	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Other Non-Food Retail	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Other Office	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Restaurant	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Schools	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -University Colleges	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Warehouse Wholesale	LED LIGHT BULB	LED PAR lamp ≤16W
Lighting -Food Retail	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Hospital	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Large Hotel (Corridor/Lobby)	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Large Non-Food Retail	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Large Office	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Nursing Home	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Other Commercial Building	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Other Hotel Motel (Corridor/Lobby)	LED LIGHT BULB	LED PAR lamp >16W to ≤25W

Lighting -Other Non-Food Retail	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Other Office	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Restaurant	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Schools	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -University Colleges	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Warehouse Wholesale	LED LIGHT BULB	LED PAR lamp >16W to ≤25W
Lighting -Food Retail	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Hospital	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Large Office	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Nursing Home	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Other Commercial Build	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Other Office	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Restaurant	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Schools	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -University Colleges	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 FIXTURES	Single-lamp Reduced Watt. T8 fixtures (2
Lighting -Food Retail	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Hospital	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Large Office	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Nursing Home	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Other Commercial Build	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Other Office	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Restaurant	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Schools	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -University Colleges	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 FIXTURES	Two-lamp Reduced Watt. T-8 fixtures (28
Lighting -Food Retail	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Hospital	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Large Office	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Nursing Home	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Other Commercial Build	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Other Office	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Restaurant	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Schools	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -University Colleges	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 FIXTURES	Three-lamp Reduced Watt. T-8 fixtures (1
Lighting -Food Retail	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Hospital	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Large Office	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Nursing Home	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28
Lighting -Other Commercial Build	REDUCED WATTAGE T8 FIXTURES	Four-lamp Reduced Watt T-8 fixtures (28

[illegible]

Lighting -Other Commercial Build	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Other Office	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Restaurant	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Schools	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -University Colleges	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 FIXTURE	Four-lamp Reduced Watt T-8 fixtures (25
Lighting -Food Retail	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Hospital	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Large Hotel (Corridor/Lo	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Large Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Large Office	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Nursing Home	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Other Commercial Build	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Other Hotel Motel (Corri	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Other Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Other Office	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Restaurant	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Schools	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -University Colleges	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Warehouse Wholesale	HIGH PERFORMANCE T8 FIXTURE	Single-lamp High Performance T-8 fixture
Lighting -Food Retail	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Hospital	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Large Hotel (Corridor/Lo	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Large Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Large Office	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Nursing Home	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Other Commercial Build	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Other Hotel Motel (Corri	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Other Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Other Office	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Restaurant	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Schools	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -University Colleges	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Warehouse Wholesale	HIGH PERFORMANCE T8 FIXTURE	Two-lamp High Performance T-8 fixtures
Lighting -Food Retail	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Hospital	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Large Hotel (Corridor/Lo	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Large Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Large Office	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Nursing Home	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Other Commercial Build	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Other Hotel Motel (Corri	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Other Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Other Office	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Restaurant	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Schools	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -University Colleges	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Warehouse Wholesale	HIGH PERFORMANCE T8 FIXTURE	Three-lamp High Performance T-8 fixture
Lighting -Food Retail	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Hospital	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Large Hotel (Corridor/Lo	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Large Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Large Office	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures

Lighting -Nursing Home	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Other Commercial Build	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Other Hotel Motel (Corri	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Other Non-Food Retail	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Other Office	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Restaurant	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Schools	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -University Colleges	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Warehouse Wholesale	HIGH PERFORMANCE T8 FIXTURE	Four-lamp High Performance T-8 fixtures
Lighting -Hospital	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Large Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Nursing Home	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Other Commercial Build	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Other Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Schools	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -University Colleges	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Warehouse Wholesale	HIGH PERFORMANCE MEDIUM BA	Four-lamp High Performance T-8 fixtures
Lighting -Hospital	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Large Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Nursing Home	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Other Commercial Build	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Other Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Schools	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -University Colleges	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Warehouse Wholesale	HIGH PERFORMANCE MEDIUM BA	Six-lamp High Performance T-8 fixtures (
Lighting -Hospital	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Large Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Nursing Home	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Other Commercial Build	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Other Non-Food Retail	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Schools	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -University Colleges	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Warehouse Wholesale	HIGH PERFORMANCE MEDIUM BA	Eight-lamp High Performance T-8 fixtures
Lighting -Food Retail	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Hospital	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Large Hotel (Corridor/Lo	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Large Non-Food Retail	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Large Office	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Nursing Home	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Other Commercial Build	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Other Hotel Motel (Corri	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Other Non-Food Retail	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Other Office	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Restaurant	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Schools	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -University Colleges	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Warehouse Wholesale	T5 FIXTURES	T5 fixture w 3 Lamps and 1 Electronic Ba
Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	2-lamp HO T-5 fixtures (54W)

Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	4-lamp HO T-5 fixtures (54W)
Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	6-lamp HO T-5 fixtures (54W)
Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	8-lamp HO T-5 fixtures (54W)
Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	10-lamp HO T-5 fixtures (54W)
Lighting -Hospital	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Large Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Nursing Home	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Other Commercial Build	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Other Non-Food Retail	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Schools	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -University Colleges	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting -Warehouse Wholesale	T5 MEDIUM AND HIGH BAY FIXTUR	12-lamp HO T-5 fixtures (54W)
Lighting - General	SELF BALLASTED CERAMIC META	≤ 30 Watt PAR Ceramic Metal Halide
Lighting - General	LOWER WATTAGE HID LAMPS	150 Watt Pulse Start Metal Halide Lamp
Lighting - General	LOWER WATTAGE HID LAMPS	200 Watt Pulse Start Metal Halide Lamp
Lighting - General	LOWER WATTAGE HID LAMPS	320 Watt Pulse Start Metal Halide Lamp
Lighting - General	LOWER WATTAGE HID LAMPS	350 Watt Pulse Start Metal Halide Lamp
Lighting Control	OCCUPANCY SENSORS	Switch plate mounted
Lighting Control	OCCUPANCY SENSORS	Ceiling mounted
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Other Commercial Build	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture

Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	One 28W Lamp for One Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Other Commercial Build	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Two 28W Lamps for Two Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Other Commercial Build	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Three 28W Lamps for Three Lamp Fixtur
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Other Commercial Build	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Other Hotel Motel (Corri	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Four 28W Lamps for Four Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Large Hotel (Corridor/Lo	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Other Commercial Build	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture

Lighting -Other Hotel Motel (Corridor)	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	One 25W Lamp for One Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Large Hotel (Corridor/Lobby)	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Other Commercial Building	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Other Hotel Motel (Corridor)	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Two 25W Lamps for Two Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Large Hotel (Corridor/Lobby)	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Other Commercial Building	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Other Hotel Motel (Corridor)	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Three 25W Lamps for Three Lamp Fixture
Lighting -Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Hospital	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Large Hotel (Corridor/Lobby)	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Large Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Large Office	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Nursing Home	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Other Commercial Building	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Other Hotel Motel (Corridor)	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Other Non-Food Retail	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Other Office	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Restaurant	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Schools	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -University Colleges	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Warehouse Wholesale	REDUCED WATTAGE T8 RE-LAMP	Four 25W Lamps for Four Lamp Fixture
Lighting -Food Retail	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Hospital	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Large Hotel (Corridor/Lobby)	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Large Non-Food Retail	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Large Office	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Nursing Home	INTEGRAL LED TROFFERS	2' x 2' LED troffer

Lighting -Other Commercial Build	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Other Hotel Motel (Corri	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Other Non-Food Retail	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Other Office	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Restaurant	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Schools	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -University Colleges	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Warehouse Wholesale	INTEGRAL LED TROFFERS	2' x 2' LED troffer
Lighting -Food Retail	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Hospital	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Large Hotel (Corridor/Lo	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Large Non-Food Retail	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Large Office	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Nursing Home	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Other Commercial Build	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Other Hotel Motel (Corri	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Other Non-Food Retail	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Other Office	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Restaurant	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Schools	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -University Colleges	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Warehouse Wholesale	INTEGRAL LED TROFFERS	1' x 4' LED troffer
Lighting -Food Retail	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Hospital	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Large Hotel (Corridor/Lo	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Large Non-Food Retail	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Large Office	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Nursing Home	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Other Commercial Build	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Other Hotel Motel (Corri	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Other Non-Food Retail	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Other Office	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Restaurant	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Schools	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -University Colleges	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting -Warehouse Wholesale	INTEGRAL LED TROFFERS	2' x 4' LED troffer
Lighting - General	LED EXTERIOR AREA LIGHTS	LED fixture (30W to ≤50W)
Lighting - General	LED EXTERIOR AREA LIGHTS	LED fixture (>50W to ≤100W)
Lighting - General	LED EXTERIOR AREA LIGHTS	LED fixture (>100W to ≤250W)
Lighting - General	LED EXTERIOR AREA LIGHTS	LED fixture (>250W)
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	4 – 4' 32W HBF Vapour/Dust Proof Fixtu
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	3 - 4' 54W T5HOVapour/Dust Proof Fixtu
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	4 - 4' 54W T5HOVapour/Dust Proof Fixtu
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	6 – 4' 32W HBF Vapour/Dust Proof Fixtu
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	4 - 4' 54W T5HOVapour/Dust Proof Fixtu
Lighting - General	T8/T5 REPLACEMENT - VAPOUR/D	6 - 4' 54W T5HO Fixture Vapour/Dust Pr
Lighting -Food Retail	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Hospital	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Large Hotel (Corridor/Lo	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Large Non-Food Retail	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Large Office	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Nursing Home	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Other Commercial Build	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Other Hotel Motel (Corri	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Other Non-Food Retail	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L

Lighting -Other Office	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Restaurant	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Schools	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -University Colleges	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Warehouse Wholesale	ENERGY STAR® QUALIFIED LED L	7W – 11W ENERGY STAR® Qualified L
Lighting -Food Retail	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Hospital	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Large Hotel (Corridor/Lo	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Large Non-Food Retail	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Large Office	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Nursing Home	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Other Commercial Build	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Other Hotel Motel (Corri	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Other Non-Food Retail	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Other Office	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Restaurant	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Schools	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -University Colleges	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Lighting -Warehouse Wholesale	ENERGY STAR® QUALIFIED LED L	10W – 14W ENERGY STAR® Qualified
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 1.5 HP, 87.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 2 HP, 88.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 3 HP, 90%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 5 HP, 90.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 7.5 HP, 91.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 10 HP, 92.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 15 HP, 92.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 20 HP, 93%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 25 HP, 93.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 30 HP, 94.1%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 50 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 60 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 75 HP, 95.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 100 HP, 95.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 125 HP, 95.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 150 HP, 95.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 200 HP, 95.9%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 20 HP, 93.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 25 HP, 94.1%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 50 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 60 HP, 95.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 75 HP, 95.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 125 HP, 95.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 150 HP, 96.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 200 HP, 96.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 1 HP, 84%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 1.5 HP, 86%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 2 HP, 86.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 3 HP, 87.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 5 HP, 89.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 7.5 HP, 90%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 10 HP, 90.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 15 HP, 91.4%Eff

Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 20 HP, 92.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 25 HP, 93%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 30 HP, 93.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 40 HP, 93.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 50 HP, 93.9%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 60 HP, 94.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 75 HP, 94.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 100 HP, 94.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 125 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 150 HP, 95.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 200 HP, 95.7%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 1 HP, 84%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 5 HP, 90.3%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 7.5 HP, 91.9%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 10 HP, 92.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 15 HP, 93.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 20 HP, 92.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 30 HP, 93.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 50 HP, 94.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 60 HP, 95%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 75 HP, 95%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 100 HP, 95.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 125 HP, 95.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 150 HP, 96.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 1 HP, 86.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 1.5 HP, 87.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 2 HP, 87.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 5 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 7.5 HP, 92.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 10 HP, 92.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 15 HP, 93%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 20 HP, 93.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 30 HP, 94.1%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 40 HP, 94.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 50 HP, 95%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 100 HP, 95.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 125 HP, 95.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 150 HP, 96.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 200 HP, 96.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 1 HP, 86.3%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 1.5 HP, 86.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 2 HP, 86.9%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 3 HP, 88.9%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 5 HP, 90%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 7.5 HP, 91.1%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 10 HP, 91.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 15 HP, 92%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 20 HP, 93.1%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 25 HP, 92.7%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 30 HP, 92.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 40 HP, 93.7%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 50 HP, 94.2%Eff

Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 60 HP, 94.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 75 HP, 95.1%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 100 HP, 95.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 125 HP, 95.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 150 HP, 95.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 3600 RPM, 200 HP, 95.9%Eff
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 1 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 1.5 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 2 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 3 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 5 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 7.5 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 10 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 15 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 20 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 25 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 30 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 40 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 50 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 60 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 75 HP, 73.5% Load Factor
Electric Auxiliary	SYNCHRONOUS BELT	Motor Size: 100 HP, 73.5% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 1 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 1.5 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 2 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 3 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 5 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 7.5 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 10 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 15 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 20 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 25 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 30 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 40 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 50 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 60 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 75 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 100 HP, 66% Load Factor
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 1.5 HP, 87.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 2 HP, 88.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 3 HP, 90%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 5 HP, 90.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 7.5 HP, 91.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 10 HP, 92.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 15 HP, 92.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 20 HP, 93%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 25 HP, 93.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 30 HP, 94.1%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 50 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 60 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 75 HP, 95.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 100 HP, 95.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 125 HP, 95.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 150 HP, 95.8%Eff

Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1200 RPM, 200 HP, 95.9%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 20 HP, 93.6%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 25 HP, 94.1%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 50 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 60 HP, 95.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 75 HP, 95.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 125 HP, 95.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 150 HP, 96.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 1800 RPM, 200 HP, 96.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 1 HP, 84%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 1.5 HP, 86%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 2 HP, 86.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 3 HP, 87.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 5 HP, 89.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 7.5 HP, 90%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 10 HP, 90.5%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 15 HP, 91.4%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 20 HP, 92.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 25 HP, 93%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 30 HP, 93.7%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 40 HP, 93.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 50 HP, 93.9%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 60 HP, 94.2%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 75 HP, 94.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 100 HP, 94.8%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 125 HP, 95%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 150 HP, 95.3%Eff
Electric Auxiliary	OPEN DRIP-PROOF (ODP) MOTOR	ODP 3600 RPM, 200 HP, 95.7%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 1 HP, 84%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 5 HP, 90.3%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 7.5 HP, 91.9%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 10 HP, 92.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 15 HP, 93.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 20 HP, 92.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 30 HP, 93.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 40 HP, 94.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 50 HP, 94.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 60 HP, 95%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 75 HP, 95%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 100 HP, 95.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 125 HP, 95.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1200 RPM, 150 HP, 96.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 1 HP, 86.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 1.5 HP, 87.8%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 2 HP, 87.5%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 3 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 5 HP, 90.2%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 7.5 HP, 92.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 10 HP, 92.4%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 15 HP, 93%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 20 HP, 93.6%Eff
Electric Auxiliary	TOTALLY ENCLOSED FAN-COOLED	TEFC 1800 RPM, 30 HP, 94.1%Eff

[illegible]

Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 75 HP, 66% Load Factor
Electric Auxiliary	VARIABLE FREQUENCY DRIVE (VFD)	Motor Size: 100 HP, 66% Load Factor
Multi-Residential In Suite Appliance	ENERGY STAR® CLOTHES WASHER	Electric Water Heating
Multi-Residential In Suite Appliance	ENERGY STAR® DISHWASHER	Electric Water Heating
Multi-Residential In Suite Appliance	ENERGY STAR® REFRIGERATOR	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Multi-Residential In Suite Appliance	ENERGY STAR® CLOTHES WASHER	Electric Water Heating
Multi-Residential In Suite Appliance	ENERGY STAR® DISHWASHER	Electric Water Heating
Multi-Residential In Suite Appliance	ENERGY STAR® REFRIGERATOR	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Multi-Residential In Suite Appliance	IN-SUITE TEMPERATURE CONTROL	-
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system < 5.4 tons, Electric Resistance
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system < 5.4 tons, All Other, 12.5 Eff
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Single package < 5.4 tons, Electric Resistance
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Single package < 5.4 tons, All Other, 12.0
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 5.4 to < 11
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 5.4 to < 11
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 11.25 to <
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 11.25 to <
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 20 to < 63
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 20 to < 63
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package > 63 tons, E
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package > 63 tons, A
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system < 5.4 tons, Electric Resistance
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system < 5.4 tons, All Other, 12.5 Eff
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Single package < 5.4 tons, Electric Resistance
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Single package < 5.4 tons, All Other, 12.0
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 5.4 to < 11
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 5.4 to < 11
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 11.25 to <
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 11.25 to <
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 20 to < 63
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 20 to < 63
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package > 63 tons, E
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package > 63 tons, A
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system, < 5.4 tons, All Heating Type
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Single package, < 5.4 tons, All Heating T
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/single package, ≥ 5.4 to < 7.
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/single package, ≥ 5.4 to < 7.
Refrigeration	ENERGY STAR® FREEZER	Glass Door (< 15 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Glass Door (≥ 15 cu.ft. to < 30 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Glass Door (≥ 30 cu.ft. to < 50 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Glass Door (≥ 50 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Solid Door (< 15 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Solid Door (≥ 15 cu.ft. to < 30 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Solid Door (≥ 30 cu.ft. to < 50 cu.ft.)
Refrigeration	ENERGY STAR® FREEZER	Solid Door (≥ 50 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Glass Door (< 15 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Glass Door (≥ 15 cu.ft. to < 30 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Glass Door (≥ 30 cu.ft. to < 50 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Glass Door (≥ 50 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Solid Door (< 15 cu.ft.)

Refrigeration	ENERGY STAR® REFRIGERATOR	Solid Door (≥ 15 cu.ft. to < 30 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Solid Door (≥ 30 cu.ft. to < 50 cu.ft.)
Refrigeration	ENERGY STAR® REFRIGERATOR	Solid Door (≥ 50 cu.ft.)
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size > 1 hp (per hp)
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size > 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size < 1/20 hp
Refrigeration	HIGH EFFICIENCY REFRIGERATIO	Discus (per hp); COP ≥ 2.4
Refrigeration	HIGH EFFICIENCY REFRIGERATIO	Scroll (per hp); COP ≥ 2.2
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/20 hp to < 1/10 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size ≥ 1/10 hp to ≤ 1 hp
Refrigeration	ECM MOTORS FOR EVAPORATOR	Motor Size > 1 hp
Space Cooling	ECM MOTORS FOR HVAC APPLICA	Motor ≥ 1 hp (per hp)
Building Plug Load	ENERGY STAR® ICE MACHINES	Ice Making Head <204 kg/day ice
Building Plug Load	ENERGY STAR® ICE MACHINES	Ice Making Head ≥204 kg/day ice
Building Plug Load	ENERGY STAR® ICE MACHINES	Remote Condensing Unit (w/o Remote C
Building Plug Load	ENERGY STAR® ICE MACHINES	Remote Condensing Unit (w/o Remote C
Building Plug Load	ENERGY STAR® ICE MACHINES	Remote Condensing Unit (with Remote C
Building Plug Load	ENERGY STAR® ICE MACHINES	Remote Condensing Unit (with Remote C
Building Plug Load	ENERGY STAR® ICE MACHINES	Self Contained Unit <79 kg/day ice
Building Plug Load	ENERGY STAR® ICE MACHINES	Self Contained Unit ≥79 kg/day ice
Building Plug Load	BEVERAGE VENDING MACHINE C	Vending Machine Capacity <500 cans
Building Plug Load	BEVERAGE VENDING MACHINE C	Vending Machine Capacity ≥500 to <600
Building Plug Load	BEVERAGE VENDING MACHINE C	Vending Machine Capacity ≥600 to <700
Building Plug Load	BEVERAGE VENDING MACHINE C	Vending Machine Capacity ≥700 to <800
Building Plug Load	BEVERAGE VENDING MACHINE C	Vending Machine Capacity ≥800 cans
Computer	NETWORK PC POWER MANAGEM	Centrally controlled desktop PC
Lighting	T8 LAMPS & ELECTRONIC BALLAS	1 – 4' 32W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	1 – 4' 25W NBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	1 – 4' 28W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	1 – 4' 32W BF > 1.1 + Reflector
Lighting	T8 LAMPS & ELECTRONIC BALLAS	2 – 4' 32W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	2 – 4' 25W NBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	2 – 4' 28W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	2 – 4' 32W BF > 1.1 + Reflector
Lighting	T8 LAMPS & ELECTRONIC BALLAS	4 – 4' 32W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	4 – 4' 25W NBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	4 – 4' 28W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	2 – 4' 28W LBF
Lighting	T8 LAMPS & ELECTRONIC BALLAS	4 – 4' 28W LBF
Lighting	METAL HALIDE DIRECT LAMP REP	1 – 150W Metal Halide Direct Lamp Repl
Lighting	METAL HALIDE DIRECT LAMP REP	1 – 360W Metal Halide Direct Lamp Repl
Lighting	T8 / T5 REPLACEMENT	4 – 4' 32W HBF Fixture (Minimum of 3,10
Lighting	T8 / T5 REPLACEMENT	3 – 4' 54W T5 High Output Fixture
Lighting	T8 / T5 REPLACEMENT	4 – 4' 54W T5 High Output Fixture
Lighting	T8 / T5 REPLACEMENT	6 – 4' 32W HBF Fixture (Minimum of 3,10

Lighting	T8 / T5 REPLACEMENT	4 – 4' 54W T5 High Output Fixture
Lighting	T8 / T5 REPLACEMENT	6 – 4' 54W T5 High Output Fixture
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	4 – 4' 32W HBF Vapour / Dust Proof Fixt
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	3 – 4' 54W T5 High Output Vapour / Dust
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	4 – 4' 54W T5 High Output Vapour / Dust
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	6 – 4' 32W HBF Vapour / Dust Proof Fixt
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	4 – 4' 54W T5 High Output Vapour / Dust
Lighting	T8 / T5 REPLACEMENT – VAPOUR/	6 – 4' 54W T5 High Output Vapour / Dust
Lighting	ENERGY STAR® LED LAMPS - OMN	7W – 11W ENERGY STAR® Qualified L
Lighting	ENERGY STAR® LED LAMPS - OMN	10W – 14W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED LAMPS - OMN	17W – 23W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED LAMPS - OMN	17W – 23W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED PAR16/20/30/	5W – 7W ENERGY STAR® Qualified LE
Lighting	ENERGY STAR® LED PAR16/20/30/	8W – 12W ENERGY STAR® Qualified L
Lighting	ENERGY STAR® LED PAR16/20/30/	8W – 12W ENERGY STAR® Qualified L
Lighting	ENERGY STAR® LED PAR16/20/30/	8W – 12W ENERGY STAR® Qualified L
Lighting	ENERGY STAR® LED PAR16/20/30/	14W – 18W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED PAR16/20/30/	14W – 18W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED PAR16/20/30/	19W – 25W ENERGY STAR® Qualified
Lighting	ENERGY STAR® LED LAMPS - PAR	5W – 7W ENERGY STAR® Qualified LE
Lighting	ENERGY STAR® LED LAMPS - PAR	7W – 10W ENERGY STAR® Qualified L
Lighting	ENERGY STAR® LED LAMPS - MR	5W – 7W ENERGY STAR® Qualified LE
Lighting	ENERGY STAR® LED LAMPS - MR	7W – 12W ENERGY STAR® Qualified L
Controls for Lighting	DIMMER SWITCH (HARD-WIRED)	Hard-Wired Dimmer
Controls for Lighting	HEAVY DUTY PLUG-IN TIMERS (HO	Holiday Lighting Timers
Controls for Lighting	HEAVY DUTY PLUG-IN TIMERS (OU	Outdoor Lighting Timers
Controls for Lighting	LIGHTING TIMERS (HARD-WIRED,	Hard-Wired Indoor Timers
Controls for Lighting	MOTION SENSORS (HARD-WIRED)	Hard-Wired Indoor Motion Sensor
Controls for Space Cooling and H	PROGRAMMABLE THERMOSTAT (I	Programmable Thermostat for Baseboard
Lighting	ENERGY STAR® QUALIFIED LED B	General Purpose LEDs
Lighting	ENERGY STAR® QUALIFIED LED B	Specialty LEDs (Flood/Reflector)
Lighting	ENERGY STAR® QUALIFIED LED B	Specialty LEDs (Globe)
Lighting	ENERGY STAR® QUALIFIED LED B	Specialty LEDs (Candle)
Lighting	ENERGY STAR® CEILING FAN	-
Lighting	ENERGY STAR® CEILING FAN	-
Lighting	ENERGY STAR® QUALIFIED INDOO	Hard Wired (per socket)
Lighting	ENERGY STAR® QUALIFIED SPEC	19W Dimmable CFL
Lighting	ENERGY STAR® QUALIFIED SPEC	Chandelier CFLs
Lighting	ENERGY STAR® QUALIFIED SPEC	Covered CFLs
Lighting	ENERGY STAR® QUALIFIED SPEC	Globe CFLs
Lighting	ENERGY STAR® QUALIFIED SPEC	26W, Indoor
Lighting	ENERGY STAR® QUALIFIED SPEC	26W, Outdoor
Lighting	ENERGY STAR® QUALIFIED SPEC	High Wattage 3-Way CFL
Lighting	ENERGY STAR® QUALIFIED SPEC	Low Wattage 3-Way CFL
Miscellaneous	CLOTHESLINES	Outdoor clothesline umbrella stands or cl
Miscellaneous	HEAVY DUTY PLUG-IN TIMERS	Spa Pump Timer
Miscellaneous	HEAVY DUTY PLUG-IN TIMERS	Car Block Heater Timer
Miscellaneous	HEAVY DUTY PLUG-IN TIMERS	Pool Pump Timer
Miscellaneous	POWER BAR WITH INTEGRATED T	-
Miscellaneous	POWER BAR, SMART (WITH AUTO	-
Thermal Envelope	WEATHERSTRIPPING (DOOR FRAI	New Weatherstripping (Electric Heat)
Thermal Envelope	WEATHERSTRIPPING (DOOR FRAI	Replaced Existing Weatherstripping (Elec
Thermal Envelope	WEATHERSTRIPPING (DOOR FRAI	Added to Existing Weatherstripping (Elec
Thermal Envelope	WEATHERSTRIPPING (FOAM OR V	New Weatherstripping (Electric Heat)
Thermal Envelope	WEATHERSTRIPPING (FOAM OR V	Replaced Existing Weatherstripping (Elec

Thermal Envelope	WEATHERSTRIPPING (FOAM OR V	Added to Existing Weatherstripping (Elec
Water Heating - Residential	HOT WATER PIPE WRAP	Per 3' Pipe Wrap (3/4" Pipe)
Water Heating - Residential	WATER HEATER BLANKET	New Electric Water Heater Blanket
Water Heating - Residential	WATER HEATER BLANKET (REPLA	New Electric Water Heater Blanket
Lighting	ENERGY STAR® QUALIFIED STAN	9 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	11 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	13 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	15 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	18 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	20 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	23 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	25 W General Service Lamp, Screw-In
Lighting	ENERGY STAR® QUALIFIED STAN	27 W General Service Lamp, Screw-In
Household Appliances	ENERGY STAR® FREEZER	Replace With New
Household Appliances	ENERGY STAR® FREEZER	No Replacement
Household Appliances	ENERGY STAR® REFRIGERATOR	Replace With New
Household Appliances	ENERGY STAR® REFRIGERATOR	No Replacement
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	Replace With New
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	No Replacement
Space Cooling and Heating	ENERGY STAR® ROOM AIR COND	Replace With New
Space Cooling and Heating	ENERGY STAR® ROOM AIR COND	No Replacement
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	Replace With New
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	No Replacement
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating and cooling, existing home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating and cooling, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating only, existing home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating only, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating and cooling, existing home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating and cooling, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating only, existing home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (C	Space heating only, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (N	Space heating and cooling, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (N	Space heating only, existing home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (N	Space heating only, new home
Space Cooling and Heating	ELECTRIC FURNACE WITH ECM (N	Space heating and cooling, existing home
Space Cooling and Heating	ENERGY STAR® CENTRAL AIR CO	SEER 14.5
Space Cooling and Heating	ENERGY STAR® CENTRAL AIR CO	SEER 14.5, With High Temperature
Space Cooling and Heating	ENERGY STAR® CENTRAL AIR CO	SEER 15
Space Cooling and Heating	ENERGY STAR® CENTRAL AIR CO	SEER 15, With High Temperature
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (CONTI	Space heating only, new home

Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating only, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating and cooling, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating and cooling, new home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating only, existing home
Space Cooling and Heating	GAS FURNACE WITH ECM (NON-C	Space heating only, new home
Controls for Space Cooling and H	PROGRAMMABLE THERMOSTAT	Baseboard Heaters
Controls for Space Cooling and H	PROGRAMMABLE THERMOSTAT	Electric Forced-Air Heating
Household Appliances	ENERGY STAR® FREEZER	Freezer Replacement (ENERGY STAR C
Household Appliances	ENERGY STAR® FREEZER	Freezer Replacement (ENERGY STAR C
Household Appliances	ENERGY STAR® REFRIGERATOR	Refrigerator Replacement (ENERGY STA
Household Appliances	ENERGY STAR® REFRIGERATOR	Refrigerator Replacement (ENERGY STA
Household Appliances	REFRIGERATOR REPLACEMENT	Refrigerator Replacement (10.0 - 12.5 cu
Lighting	ENERGY STAR® QUALIFIED COMF	3-Way CFL
Lighting	ENERGY STAR® QUALIFIED COMF	13 W CFL Twister
Lighting	ENERGY STAR® QUALIFIED COMF	20 W CFL Twister
Lighting	ENERGY STAR® QUALIFIED COMF	25 W CFL Twister
Lighting	ENERGY STAR® QUALIFIED COMF	Covered A19 CFLs
Lighting	ENERGY STAR® QUALIFIED COMF	23 W CFL PAR 30
Lighting	ENERGY STAR® QUALIFIED COMF	26W CFL PAR 38, Indoor
Lighting	ENERGY STAR® QUALIFIED COMF	26W CFL PAR 38, Outdoor
Miscellaneous	EFFICIENT AERATORS	Kitchen - Flow Rate < 5.7 L/min
Miscellaneous	EFFICIENT AERATORS	Bathroom - Flow Rate < 3.8 L/min
Miscellaneous	EFFICIENT SHOWERHEAD (HANDH	Flow Rate < 4.8 L/min
Miscellaneous	EFFICIENT SHOWERHEAD (STAND	Flow Rate < 4.8 L/min
Miscellaneous	HEAVY DUTY PLUG-IN TIMERS	Car Block Heater Timer
Miscellaneous	POWER BAR WITH INTEGRATED T	Smart Power Bar
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	Dehumidifier Replacement (ENERGY ST
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	Dehumidifier Replacement (ENERGY ST
Space Cooling and Heating	ENERGY STAR® DEHUMIDIFIER	Dehumidifier Replacement (ENERGY ST
Space Cooling and Heating	ENERGY STAR® ROOM AIR COND	Room Air Conditioner Replacement (ENE
Space Cooling and Heating	ENERGY STAR® ROOM AIR COND	Room Air Conditioner Replacement (ENE
Space Cooling and Heating	ENERGY STAR® ROOM AIR COND	Room Air Conditioner Replacement (ENE
Water Heating - Residential	HOT WATER PIPE WRAP	Per 3' Pipe Wrap (3/4" Pipe)
Water Heating - Residential	HOT WATER PIPE WRAP	Per 3' Pipe Wrap (1/2" Pipe)
Water Heating - Residential	WATER HEATER BLANKET	Fibreglass R10
Controls for Lighting	DIMMER SWITCH	Hard-Wired Dimmer
Controls for Lighting	INDOOR LIGHTING TIMER	Indoor Lighting Timer
Controls for Lighting	INDOOR MOTION SENSOR	Indoor Motion Sensor
Controls for Lighting	OUTDOOR LIGHTING TIMER	Outdoor Lighting Timers
Controls for Lighting	OUTDOOR MOTION SENSOR	Outdoor Motion Sensor
Lighting	ENERGY STAR QUALIFIED LED	-
Lighting	ENERGY STAR QUALIFIED LIGHT F	-
Lighting	ENERGY STAR QUALIFIED LIGHT F	-
Lighting	ENERGY STAR QUALIFIED RECES	-
Lighting	ENERGY STAR QUALIFIED UNDER	-
Miscellaneous	ALL OFF SWITCH	-
Non-Lighting	CUSTOM NON-LIGHTING	BTM 1
Non-Lighting	CUSTOM NON-LIGHTING	BTM 2
Non-Lighting	CUSTOM NON-LIGHTING	BTM 3
Non-Lighting	CUSTOM NON-LIGHTING	BTM 4
Non-Lighting	CUSTOM NON-LIGHTING	BTM 5
Non-Lighting	CUSTOM NON-LIGHTING	BTM 6

Space Cooling	CAC 14.5 SEER	ARCHETYPE - CAC 14.5 SEER
Space Cooling	CAC 15 SEER	ARCHETYPE - CAC 15 SEER
Space Cooling and Heating	ECM FURNACE	ARCHETYPE - ECM FURNACE
Miscellaneous	COUPONS	ARCHETYPE - COUPONS
Space Cooling	CAC 15 SEER	ARCHETYPE - CAC 15 SEER
Miscellaneous	AUDIT PROJECT	ARCHETYPE - AUDIT PROJECT
Lighting	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
Lighting	New Participant GS >50	ARCHETYPE - NEW PARTICIPANT GS
Non-Lighting	CUSTOM NON-LIGHTING	BTM 1
Miscellaneous	AUDIT PROJECT	ARCHETYPE - AUDIT PROJECT
Miscellaneous	COUPONS	ARCHETYPE - COUPONS
Space Cooling and Heating	ECM FURNACE	ARCHETYPE - ECM FURNACE
Lighting	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
Miscellaneous	AUDIT PROJECT	ARCHETYPE - AUDIT PROJECT
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system < 5.4 tons, Electric Resistance
HAP Home	HAP HOME	ARCHETYPE - HAP HOME
Miscellaneous	COUPONS	ARCHETYPE - COUPONS
Space Cooling and Heating	ECM FURNACE	ARCHETYPE - ECM FURNACE
Lighting	ENERGY STAR® LED PAR16/20/30	5W – 7W ENERGY STAR® Qualified LED
Household Appliances	ENERGY STAR® REFRIGERATOR	Replace With New
Thermostat	Adaptive Thermostat	Adaptive Thermostat - Gas Heating w/CA
Thermostat	Adaptive Thermostat	Adaptive Thermostat - Electric Heating w/CA
Non-Lighting	Energy Manager	Energy Manager
Miscellaneous	EBCX Measures	EBCx Measures
Miscellaneous	M&T Measures	M&T Measures
New Home	NEW HOME CONSTRUCTION	ARCHETYPE - NEW HOME CONSTRUCTION
2015 Low Income Initiative	HAP HOME	ARCHETYPE - HAP HOME
HPNC Project	HPNC PROJECT	ARCHETYPE - HPNC PROJECT
Lighting	CUSTOM LIGHTING	ARCHETYPE - CUSTOM LIGHTING
Miscellaneous	M&T Measures	M&T Measures
Miscellaneous	BI-ANNUAL COUPONS	ARCHETYPE - BI-ANNUAL COUPONS
Miscellaneous	2016 Coupons	ARCHETYPE - COUPONS
Miscellaneous	2017 Coupons	ARCHETYPE - COUPONS
Miscellaneous	CLOTHESLINES	Retractable Clothesline
Space Cooling	SEER 18 CAC	SEER 18 CAC
Non-Lighting	CUSTOM NON-LIGHTING	Custom Project
Non-Lighting	CUSTOM NON-LIGHTING	Chrysler Chiller Project
Space Cooling and Heating	Air Source Heat Pump 2016 Program	Air Source Heat Pump
Space Cooling	UNITARY AIR-CONDITIONING UNIT	Split system/Single package ≥ 20 to < 63
Miscellaneous	Retrocommissioning	Retrocommissioning Program
Space Cooling and Heating	Whole Home Pilot Historical	ARCHETYPE - ECM FURNACE
Miscellaneous	PRESCRIPTIVE LIGHTING	Historical Result
Non-Lighting	CUSTOM NON-LIGHTING	ADM CHP
Non-Lighting	CHP	FAC - CHP (2019)
Non-Lighting	CHP	wfcu - chp 2017
Non-Lighting	CHP	h.lodge chp 2017
Non-Lighting	CHP	c.salt chp
Non-Lighting	CHP	intl nutrients
Non-Lighting	CHP	wfcu-ee
Study	Studies in 2017 2018	Detailed Engineering Studies
Study	Progress Payment ADM - CHP	Progress Payment
Lighting 2015 - 2018 projects	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
Lighting 2015 - 2018 projects	ENGINEERED LIGHTING	ARCHETYPE - ENGINEERED LIGHTING
Lighting 2019 Projects	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
Lighting 2019 Projects	CUSTOM LIGHTING	ARCHETYPE - CUSTOM LIGHTING

Lighting	2018 YTD Historical	ARCHETYPE - PAST PARTICIPANT
Advanced Payment	Advanced Payment FCA -EE	Progress Payment
Lighting 2015 - 2018 projects	CUSTOM LIGHTING	ARCHETYPE - CUSTOM LIGHTING
2018 Progress to date	PRESCRIPTIVE LIGHTING	ARCHETYPE - PRESCRIPTIVE LIGHTING
2018 Results PTD	COUPONS	ARCHETYPE - COUPONS

BASE MEASURE	ASSUMED ANNUAL OPERATING HOURS	BASE CASE KW	BASE CASE KWH
HISTORICAL PERFORMANCE	4940	11.976	59881.44
HISTORICAL PERFORMANCE	2148	5.856	13733.97
HISTORICAL PERFORMANCE	6037	12.999	78414.94
HISTORICAL PERFORMANCE	3610	5.692	21629.10
HISTORICAL PERFORMANCE	8760	5.235	52766.12
HISTORICAL PERFORMANCE	895	1.1647	1041.55
HISTORICAL PERFORMANCE	895	1.2336	1103.15
HISTORICAL PERFORMANCE	1942	1.5611	3031.25
HISTORICAL PERFORMANCE	1080	1.2734	1246.21
HISTORICAL PERFORMANCE	2060	1.4417	2687.71
HISTORICAL PERFORMANCE	7821	1.1336	8207.86
HISTORICAL PERFORMANCE	7375	1.1304	7691.46
HISTORICAL PERFORMANCE	2000	1.0020	2028.92
HISTORICAL PERFORMANCE	2000	1.0023	2033.45
HISTORICAL PERFORMANCE	8760	1.3260	11679.39
HISTORICAL PERFORMANCE	8760	1.0883	9544.40
HISTORICAL PERFORMANCE	3130	34.7238	108685.49
BUSINESS CASE	3440	0.000	0.00
BUSINESS CASE	3440	0.000	0.00
BUSINESS CASE	3440	0.000	0.00
HISTORICAL PERFORMANCE	5740	14.2149	81593.53
175 W Heat Lamp	6900	0.175	1207.5
2 - 175 W Heat Lamps	6900	0.35	2415
Poorly Controlled Creep Heat Lamps	560	1.575	882
Poorly Controlled Creep Heat Lamps	6900	6.125	42262.5
Minimum fan grouping in category from BESS Laborato	2804	0.475	1331.9
Minimum fan grouping in category from BESS Laborato	2804	0.682352941	1913.317647
Minimum fan grouping in category from BESS Laborato	1342	0.9	1207.8
Minimum fan grouping in category from BESS Laborato	1342	1.306666667	1753.546667
2 units Box fan, 1 hp	2900	1.808484848	5244.606061
4 units Box fan, 1 hp	2900	3.616969697	10489.21212
4 units Box fan, 1 hp	2900	3.616969697	10489.21212
1500 W (Max) electric heated Waterers	1400	1	1400
250 W Metal Halide (Assume 4 Lamps per Photocell)	6570	1.1	7227
Fans: 400W/1000 birds	7008	0.4	2803.2
Fans: 340W 1000 birds	7008	0.34	2382.72

Fans: 1,130W/1000 birds	7008	1.13	7919.04
Fans: 17W/sow	7008	0.015	105.12
Fans: 5W/market-weight hog	7008	0.005	35.04
Fans: 35W/cow	7008	0.035	245.28
50% in barn; 50% on pasture	3500	0.035	122.5
Fans: 1260W/1000 sq. meters	7008	1.26	8830.08
175 W Heat Lamp	6900	0.175	1207.5
2 - 175 W Heat Lamps	6900	0.35	2415
1500 W (Max) electric heated Waterers	1400	1	1400
Fans: 400W/1000 birds	7008	0.4	2803.2
Fans: 340W 1000 birds	7008	0.34	2382.72
Fans: 1,130W/1000 birds	7008	1.13	7919.04
Fans: 17W/sow	7008	0.015	105.12
Fans: 5W/market-weight hog	7008	0.005	35.04
Fans: 35W/cow	7008	0.035	245.28
Fans: 1260W/1000 sq. meters	7008	1.26	8830.08
60 W (T8 Lighting)	4800	0.015	72
ENERGY STAR® 15 or 18W CFL	6074	0.018	109.332
ENERGY STAR® 15 or 18W CFL	5182	0.018	93.276
ENERGY STAR® 15 or 18W CFL	7884	0.018	141.912
ENERGY STAR® 15 or 18W CFL	4089	0.018	73.602
ENERGY STAR® 15 or 18W CFL	3610	0.018	64.98
ENERGY STAR® 15 or 18W CFL	4308	0.018	77.544
ENERGY STAR® 15 or 18W CFL	2857	0.018	51.426
ENERGY STAR® 15 or 18W CFL	7884	0.018	141.912
ENERGY STAR® 15 or 18W CFL	4089	0.018	73.602
ENERGY STAR® 15 or 18W CFL	3610	0.018	64.98
ENERGY STAR® 15 or 18W CFL	5110	0.018	91.98
ENERGY STAR® 15 or 18W CFL	2596	0.018	46.728
ENERGY STAR® 15 or 18W CFL	3255	0.018	58.59
ENERGY STAR® 15 or 18W CFL	3759	0.018	67.662
ENERGY STAR® 20W CFL	6074	0.02	121.48
ENERGY STAR® 20W CFL	5182	0.02	103.64
ENERGY STAR® 20W CFL	7884	0.02	157.68
ENERGY STAR® 20W CFL	4089	0.02	81.78
ENERGY STAR® 20W CFL	3610	0.02	72.2
ENERGY STAR® 20W CFL	4308	0.02	86.16
ENERGY STAR® 20W CFL	2857	0.02	57.14
ENERGY STAR® 20W CFL	7884	0.02	157.68
ENERGY STAR® 20W CFL	4089	0.02	81.78
ENERGY STAR® 20W CFL	3610	0.02	72.2
ENERGY STAR® 20W CFL	5110	0.02	102.2
ENERGY STAR® 20W CFL	2596	0.02	51.92
ENERGY STAR® 20W CFL	3255	0.02	65.1
ENERGY STAR® 20W CFL	3759	0.02	75.18
ENERGY STAR® 25W CFL	6074	0.025	151.85
ENERGY STAR® 25W CFL	5182	0.025	129.55
ENERGY STAR® 25W CFL	7884	0.025	197.1
ENERGY STAR® 25W CFL	4089	0.025	102.225
ENERGY STAR® 25W CFL	3610	0.025	90.25
ENERGY STAR® 25W CFL	4308	0.025	107.7
ENERGY STAR® 25W CFL	2857	0.025	71.425
ENERGY STAR® 25W CFL	7884	0.025	197.1
ENERGY STAR® 25W CFL	4089	0.025	102.225

ENERGY STAR® 25W CFL	3610	0.025	90.25
ENERGY STAR® 25W CFL	5110	0.025	127.75
ENERGY STAR® 25W CFL	2596	0.025	64.9
ENERGY STAR® 25W CFL	3255	0.025	81.375
ENERGY STAR® 25W CFL	3759	0.025	93.975
20W Halogen MR16	6074	0.02	121.48
20W Halogen MR16	5182	0.02	103.64
20W Halogen MR16	7884	0.02	157.68
20W Halogen MR16	4089	0.02	81.78
20W Halogen MR16	3610	0.02	72.2
20W Halogen MR16	4308	0.02	86.16
20W Halogen MR16	2857	0.02	57.14
20W Halogen MR16	7884	0.02	157.68
20W Halogen MR16	4089	0.02	81.78
20W Halogen MR16	3610	0.02	72.2
20W Halogen MR16	5110	0.02	102.2
20W Halogen MR16	2596	0.02	51.92
20W Halogen MR16	3255	0.02	65.1
20W Halogen MR16	3759	0.02	75.18
35W Halogen MR16	6074	0.035	212.59
35W Halogen MR16	5182	0.035	181.37
35W Halogen MR16	7884	0.035	275.94
35W Halogen MR16	4089	0.035	143.115
35W Halogen MR16	3610	0.035	126.35
35W Halogen MR16	4308	0.035	150.78
35W Halogen MR16	2857	0.035	99.995
35W Halogen MR16	7884	0.035	275.94
35W Halogen MR16	4089	0.035	143.115
35W Halogen MR16	3610	0.035	126.35
35W Halogen MR16	5110	0.035	178.85
35W Halogen MR16	2596	0.035	90.86
35W Halogen MR16	3255	0.035	113.925
35W Halogen MR16	3759	0.035	131.565
50 W Incandescent or Halogen PAR Lamp	6074	0.05	303.7
50 W Incandescent or Halogen PAR Lamp	5182	0.05	259.1
50 W Incandescent or Halogen PAR Lamp	7884	0.05	394.2
50 W Incandescent or Halogen PAR Lamp	4089	0.05	204.45
50 W Incandescent or Halogen PAR Lamp	3610	0.05	180.5
50 W Incandescent or Halogen PAR Lamp	4308	0.05	215.4
50 W Incandescent or Halogen PAR Lamp	2857	0.05	142.85
50 W Incandescent or Halogen PAR Lamp	7884	0.05	394.2
50 W Incandescent or Halogen PAR Lamp	4089	0.05	204.45
50 W Incandescent or Halogen PAR Lamp	3610	0.05	180.5
50 W Incandescent or Halogen PAR Lamp	5110	0.05	255.5
50 W Incandescent or Halogen PAR Lamp	2596	0.05	129.8
50 W Incandescent or Halogen PAR Lamp	3255	0.05	162.75
50 W Incandescent or Halogen PAR Lamp	3759	0.05	187.95
75 W Incandescent or Halogen Par Lamp	6074	0.075	455.55
75 W Incandescent or Halogen Par Lamp	5182	0.075	388.65
75 W Incandescent or Halogen Par Lamp	7884	0.075	591.3
75 W Incandescent or Halogen Par Lamp	4089	0.075	306.675
75 W Incandescent or Halogen Par Lamp	3610	0.075	270.75
75 W Incandescent or Halogen Par Lamp	4308	0.075	323.1
75 W Incandescent or Halogen Par Lamp	2857	0.075	214.275
75 W Incandescent or Halogen Par Lamp	7884	0.075	591.3

75 W Incandescent or Halogen Par Lamp	4089	0.075	306.675
75 W Incandescent or Halogen Par Lamp	3610	0.075	270.75
75 W Incandescent or Halogen Par Lamp	5110	0.075	383.25
75 W Incandescent or Halogen Par Lamp	2596	0.075	194.7
75 W Incandescent or Halogen Par Lamp	3255	0.075	244.125
75 W Incandescent or Halogen Par Lamp	3759	0.075	281.925
Single-lamp Std. T8 fixtures (32W)	6074	0.03	182.22
Single-lamp Std. T8 fixtures (32W)	5182	0.03	155.46
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	4308	0.03	129.24
Single-lamp Std. T8 fixtures (32W)	2857	0.03	85.71
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	5110	0.03	153.3
Single-lamp Std. T8 fixtures (32W)	2596	0.03	77.88
Single-lamp Std. T8 fixtures (32W)	3255	0.03	97.65
Single-lamp Std. T8 fixtures (32W)	3759	0.03	112.77
Two-lamp Std. T8 fixtures (32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (32W)	3759	0.085	319.515
Four-lamp Std. T8 fixtures (32W)	6074	0.112	680.288
Four-lamp Std. T8 fixtures (32W)	5182	0.112	580.384
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	4308	0.112	482.496
Four-lamp Std. T8 fixtures (32W)	2857	0.112	319.984

Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	5110	0.112	572.32
Four-lamp Std. T8 fixtures (32W)	2596	0.112	290.752
Four-lamp Std. T8 fixtures (32W)	3255	0.112	364.56
Four-lamp Std. T8 fixtures (32W)	3759	0.112	421.008
Single-lamp Std. T8 fixtures (32W)	6074	0.03	182.22
Single-lamp Std. T8 fixtures (32W)	5182	0.03	155.46
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	4308	0.03	129.24
Single-lamp Std. T8 fixtures (32W)	2857	0.03	85.71
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	5110	0.03	153.3
Single-lamp Std. T8 fixtures (32W)	2596	0.03	77.88
Single-lamp Std. T8 fixtures (32W)	3255	0.03	97.65
Single-lamp Std. T8 fixtures (32W)	3759	0.03	112.77
Two-lamp Std. T8 fixtures (32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (32W)	3759	0.085	319.515
Four-lamp Std. T8 fixtures (32W)	6074	0.112	680.288
Four-lamp Std. T8 fixtures (32W)	5182	0.112	580.384
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	4308	0.112	482.496

Four-lamp Std. T8 fixtures (32W)	2857	0.112	319.984
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	5110	0.112	572.32
Four-lamp Std. T8 fixtures (32W)	2596	0.112	290.752
Four-lamp Std. T8 fixtures (32W)	3255	0.112	364.56
Four-lamp Std. T8 fixtures (32W)	3759	0.112	421.008
Single-lamp Std. T8 fixtures (32W)	6074	0.03	182.22
Single-lamp Std. T8 fixtures (32W)	5182	0.03	155.46
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	4308	0.03	129.24
Single-lamp Std. T8 fixtures (32W)	2857	0.03	85.71
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	5110	0.03	153.3
Single-lamp Std. T8 fixtures (32W)	2596	0.03	77.88
Single-lamp Std. T8 fixtures (32W)	3255	0.03	97.65
Single-lamp Std. T8 fixtures (32W)	3759	0.03	112.77
Two-lamp Std. T8 fixtures (32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (32W)	3759	0.085	319.515
Four-lamp Std. T8 fixtures (32W)	6074	0.112	680.288
Four-lamp Std. T8 fixtures (32W)	5182	0.112	580.384
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32

Four-lamp Std. T8 fixtures (32W)	4308	0.112	482.496
Four-lamp Std. T8 fixtures (32W)	2857	0.112	319.984
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	5110	0.112	572.32
Four-lamp Std. T8 fixtures (32W)	2596	0.112	290.752
Four-lamp Std. T8 fixtures (32W)	3255	0.112	364.56
Four-lamp Std. T8 fixtures (32W)	3759	0.112	421.008
250 Watt Metal Halide	5182	0.295	1528.69
250 Watt Metal Halide	4089	0.295	1206.255
250 Watt Metal Halide	4308	0.295	1270.86
250 Watt Metal Halide	2857	0.295	842.815
250 Watt Metal Halide	4089	0.295	1206.255
250 Watt Metal Halide	2596	0.295	765.82
250 Watt Metal Halide	3255	0.295	960.225
250 Watt Metal Halide	3759	0.295	1108.905
400 Watt Metal Halide	5182	0.45	2331.9
400 Watt Metal Halide	4089	0.45	1840.05
400 Watt Metal Halide	4308	0.45	1938.6
400 Watt Metal Halide	2857	0.45	1285.65
400 Watt Metal Halide	4089	0.45	1840.05
400 Watt Metal Halide	2596	0.45	1168.2
400 Watt Metal Halide	3255	0.45	1464.75
400 Watt Metal Halide	3759	0.45	1691.55
2 x 250 Watt Metal Halide	5182	0.59	3057.38
2 x 250 Watt Metal Halide	4089	0.59	2412.51
2 x 250 Watt Metal Halide	4308	0.59	2541.72
2 x 250 Watt Metal Halide	2857	0.59	1685.63
2 x 250 Watt Metal Halide	4089	0.59	2412.51
2 x 250 Watt Metal Halide	2596	0.59	1531.64
2 x 250 Watt Metal Halide	3255	0.59	1920.45
2 x 250 Watt Metal Halide	3759	0.59	2217.81
Four-lamp Std. T8 fixtures	6074	0.112	680.288
Four-lamp Std. T8 fixtures	5182	0.112	580.384
Four-lamp Std. T8 fixtures	7884	0.112	883.008
Four-lamp Std. T8 fixtures	4089	0.112	457.968
Four-lamp Std. T8 fixtures	3610	0.112	404.32
Four-lamp Std. T8 fixtures	4308	0.112	482.496
Four-lamp Std. T8 fixtures	2857	0.112	319.984
Four-lamp Std. T8 fixtures	7884	0.112	883.008
Four-lamp Std. T8 fixtures	4089	0.112	457.968
Four-lamp Std. T8 fixtures	3610	0.112	404.32
Four-lamp Std. T8 fixtures	5110	0.112	572.32
Four-lamp Std. T8 fixtures	2596	0.112	290.752
Four-lamp Std. T8 fixtures	3255	0.112	364.56
Four-lamp Std. T8 fixtures	3759	0.112	421.008
250 W Probe Start Metal Halide	5182	0.295	1528.69
250 W Probe Start Metal Halide	4089	0.295	1206.255
250 W Probe Start Metal Halide	4308	0.295	1270.86
250 W Probe Start Metal Halide	2857	0.295	842.815
250 W Probe Start Metal Halide	4089	0.295	1206.255
250 W Probe Start Metal Halide	2596	0.295	765.82
250 W Probe Start Metal Halide	3255	0.295	960.225
250 W Probe Start Metal Halide	3759	0.295	1108.905

400 W Probe Start Metal Halide	5182	0.45	2331.9
400 W Probe Start Metal Halide	4089	0.45	1840.05
400 W Probe Start Metal Halide	4308	0.45	1938.6
400 W Probe Start Metal Halide	2857	0.45	1285.65
400 W Probe Start Metal Halide	4089	0.45	1840.05
400 W Probe Start Metal Halide	2596	0.45	1168.2
400 W Probe Start Metal Halide	3255	0.45	1464.75
400 W Probe Start Metal Halide	3759	0.45	1691.55
2 x 250 W Probe Start Metal Halide	5182	0.59	3057.38
2 x 250 W Probe Start Metal Halide	4089	0.59	2412.51
2 x 250 W Probe Start Metal Halide	4308	0.59	2541.72
2 x 250 W Probe Start Metal Halide	2857	0.59	1685.63
2 x 250 W Probe Start Metal Halide	4089	0.59	2412.51
2 x 250 W Probe Start Metal Halide	2596	0.59	1531.64
2 x 250 W Probe Start Metal Halide	3255	0.59	1920.45
2 x 250 W Probe Start Metal Halide	3759	0.59	2217.81
3 x 250 W Probe Start Metal Halide	5182	0.885	4586.07
3 x 250 W Probe Start Metal Halide	4089	0.885	3618.765
3 x 250 W Probe Start Metal Halide	4308	0.885	3812.58
3 x 250 W Probe Start Metal Halide	2857	0.885	2528.445
3 x 250 W Probe Start Metal Halide	4089	0.885	3618.765
3 x 250 W Probe Start Metal Halide	2596	0.885	2297.46
3 x 250 W Probe Start Metal Halide	3255	0.885	2880.675
3 x 250 W Probe Start Metal Halide	3759	0.885	3326.715
1000 W Metal Halide with Probe Start Ballast	5182	1.075	5570.65
1000 W Metal Halide with Probe Start Ballast	4089	1.075	4395.675
1000 W Metal Halide with Probe Start Ballast	4308	1.075	4631.1
1000 W Metal Halide with Probe Start Ballast	2857	1.075	3071.275
1000 W Metal Halide with Probe Start Ballast	4089	1.075	4395.675
1000 W Metal Halide with Probe Start Ballast	2596	1.075	2790.7
1000 W Metal Halide with Probe Start Ballast	3255	1.075	3499.125
1000 W Metal Halide with Probe Start Ballast	3759	1.075	4040.925
3 x 400 W Probe Start Metal Halide	5182	1.35	6995.7
3 x 400 W Probe Start Metal Halide	4089	1.35	5520.15
3 x 400 W Probe Start Metal Halide	4308	1.35	5815.8
3 x 400 W Probe Start Metal Halide	2857	1.35	3856.95
3 x 400 W Probe Start Metal Halide	4089	1.35	5520.15
3 x 400 W Probe Start Metal Halide	2596	1.35	3504.6
3 x 400 W Probe Start Metal Halide	3255	1.35	4394.25
3 x 400 W Probe Start Metal Halide	3759	1.35	5074.65
75 W Halogen or 120 W Halogen	3721	0.098	364.658
175 Watt Probe Start MH Lamp and Ballast	4792	0.21	1006.32
250 Watt Probe Start MH Lamp and Ballast	4792	0.295	1413.64
400 Watt Probe Start MH Lamp and Ballast	4792	0.45	2156.4
400 Watt Probe Start MH Lamp and Ballast	4792	0.45	2156.4
No occupancy sensor	4000	0.2	800
No occupancy sensor	4000	0.2	800
Single-lamp Std. T8 fixtures (32W)	6074	0.03	182.22
Single-lamp Std. T8 fixtures (32W)	5182	0.03	155.46
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	4308	0.03	129.24
Single-lamp Std. T8 fixtures (32W)	2857	0.03	85.71
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52

Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	5110	0.03	153.3
Single-lamp Std. T8 fixtures (32W)	2596	0.03	77.88
Single-lamp Std. T8 fixtures (32W)	3255	0.03	97.65
Single-lamp Std. T8 fixtures (32W)	3759	0.03	112.77
Two-lamp Std. T8 fixtures (32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (32W)	3759	0.085	319.515
Four-lamp Std. T8 fixtures (32W)	6074	0.112	680.288
Four-lamp Std. T8 fixtures (32W)	5182	0.112	580.384
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	4308	0.112	482.496
Four-lamp Std. T8 fixtures (32W)	2857	0.112	319.984
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	5110	0.112	572.32
Four-lamp Std. T8 fixtures (32W)	2596	0.112	290.752
Four-lamp Std. T8 fixtures (32W)	3255	0.112	364.56
Four-lamp Std. T8 fixtures (32W)	3759	0.112	421.008
Single-lamp Std. T8 fixtures (32W)	6074	0.03	182.22
Single-lamp Std. T8 fixtures (32W)	5182	0.03	155.46
Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	4308	0.03	129.24
Single-lamp Std. T8 fixtures (32W)	2857	0.03	85.71

Single-lamp Std. T8 fixtures (32W)	7884	0.03	236.52
Single-lamp Std. T8 fixtures (32W)	4089	0.03	122.67
Single-lamp Std. T8 fixtures (32W)	3610	0.03	108.3
Single-lamp Std. T8 fixtures (32W)	5110	0.03	153.3
Single-lamp Std. T8 fixtures (32W)	2596	0.03	77.88
Single-lamp Std. T8 fixtures (32W)	3255	0.03	97.65
Single-lamp Std. T8 fixtures (32W)	3759	0.03	112.77
Two-lamp Std. T8 fixtures (32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (32W)	3759	0.085	319.515
Four-lamp Std. T8 fixtures (32W)	6074	0.112	680.288
Four-lamp Std. T8 fixtures (32W)	5182	0.112	580.384
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	4308	0.112	482.496
Four-lamp Std. T8 fixtures (32W)	2857	0.112	319.984
Four-lamp Std. T8 fixtures (32W)	7884	0.112	883.008
Four-lamp Std. T8 fixtures (32W)	4089	0.112	457.968
Four-lamp Std. T8 fixtures (32W)	3610	0.112	404.32
Four-lamp Std. T8 fixtures (32W)	5110	0.112	572.32
Four-lamp Std. T8 fixtures (32W)	2596	0.112	290.752
Four-lamp Std. T8 fixtures (32W)	3255	0.112	364.56
Four-lamp Std. T8 fixtures (32W)	3759	0.112	421.008
Two-lamp Std. T8 fixtures (2' 32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (2' 32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (2' 32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (2' 32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (2' 32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (2' 32W)	4308	0.058	249.864

Two-lamp Std. T8 fixtures (2' 32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (2' 32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (2' 32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (2' 32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (2' 32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (2' 32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (2' 32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (2' 32W)	3759	0.058	218.022
Two-lamp Std. T8 fixtures (4' 32W)	6074	0.058	352.292
Two-lamp Std. T8 fixtures (4' 32W)	5182	0.058	300.556
Two-lamp Std. T8 fixtures (4' 32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (4' 32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (4' 32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (4' 32W)	4308	0.058	249.864
Two-lamp Std. T8 fixtures (4' 32W)	2857	0.058	165.706
Two-lamp Std. T8 fixtures (4' 32W)	7884	0.058	457.272
Two-lamp Std. T8 fixtures (4' 32W)	4089	0.058	237.162
Two-lamp Std. T8 fixtures (4' 32W)	3610	0.058	209.38
Two-lamp Std. T8 fixtures (4' 32W)	5110	0.058	296.38
Two-lamp Std. T8 fixtures (4' 32W)	2596	0.058	150.568
Two-lamp Std. T8 fixtures (4' 32W)	3255	0.058	188.79
Two-lamp Std. T8 fixtures (4' 32W)	3759	0.058	218.022
Three-lamp Std. T8 fixtures (4' 32W)	6074	0.085	516.29
Three-lamp Std. T8 fixtures (4' 32W)	5182	0.085	440.47
Three-lamp Std. T8 fixtures (4' 32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (4' 32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (4' 32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (4' 32W)	4308	0.085	366.18
Three-lamp Std. T8 fixtures (4' 32W)	2857	0.085	242.845
Three-lamp Std. T8 fixtures (4' 32W)	7884	0.085	670.14
Three-lamp Std. T8 fixtures (4' 32W)	4089	0.085	347.565
Three-lamp Std. T8 fixtures (4' 32W)	3610	0.085	306.85
Three-lamp Std. T8 fixtures (4' 32W)	5110	0.085	434.35
Three-lamp Std. T8 fixtures (4' 32W)	2596	0.085	220.66
Three-lamp Std. T8 fixtures (4' 32W)	3255	0.085	276.675
Three-lamp Std. T8 fixtures (4' 32W)	3759	0.085	319.515
120W Metal Halide	4200	0.12	504
175W Metal Halide	4200	0.175	735
454W Metal Halide	4200	0.454	1906.8
1080W Metal Halide	4200	1.08	4536
250W Metal Halide	4792	0.295	1413.64
250W Metal Halide	4792	0.295	1413.64
250W Metal Halide	4792	0.295	1413.64
400W Metal Halide	4792	0.458	2194.736
400W Metal Halide	4792	0.458	2194.736
400W Metal Halide	4792	0.458	2194.736
ENERGY STAR® 11-13W CFL	6074	0.012	72.888
ENERGY STAR® 11-13W CFL	5182	0.012	62.184
ENERGY STAR® 11-13W CFL	7884	0.012	94.608
ENERGY STAR® 11-13W CFL	4089	0.012	49.068
ENERGY STAR® 11-13W CFL	3610	0.012	43.32
ENERGY STAR® 11-13W CFL	4308	0.012	51.696
ENERGY STAR® 11-13W CFL	2857	0.012	34.284
ENERGY STAR® 11-13W CFL	7884	0.012	94.608
ENERGY STAR® 11-13W CFL	4089	0.012	49.068

ENERGY STAR® 11-13W CFL	3610	0.012	43.32
ENERGY STAR® 11-13W CFL	5110	0.012	61.32
ENERGY STAR® 11-13W CFL	2596	0.012	31.152
ENERGY STAR® 11-13W CFL	3255	0.012	39.06
ENERGY STAR® 11-13W CFL	3759	0.012	45.108
ENERGY STAR® 15-20W CFL	6074	0.016	97.184
ENERGY STAR® 15-20W CFL	5182	0.016	82.912
ENERGY STAR® 15-20W CFL	7884	0.016	126.144
ENERGY STAR® 15-20W CFL	4089	0.016	65.424
ENERGY STAR® 15-20W CFL	3610	0.016	57.76
ENERGY STAR® 15-20W CFL	4308	0.016	68.928
ENERGY STAR® 15-20W CFL	2857	0.016	45.712
ENERGY STAR® 15-20W CFL	7884	0.016	126.144
ENERGY STAR® 15-20W CFL	4089	0.016	65.424
ENERGY STAR® 15-20W CFL	3610	0.016	57.76
ENERGY STAR® 15-20W CFL	5110	0.016	81.76
ENERGY STAR® 15-20W CFL	2596	0.016	41.536
ENERGY STAR® 15-20W CFL	3255	0.016	52.08
ENERGY STAR® 15-20W CFL	3759	0.016	60.144
ODP 1200 RPM, 1.5 HP, 86.5%Eff	4942	0.970231214	4794.882659
ODP 1200 RPM, 2 HP, 87.5%Eff	4942	1.278857143	6320.112
ODP 1200 RPM, 3 HP, 88.5%Eff	4942	1.896610169	9373.047458
ODP 1200 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
ODP 1200 RPM, 7.5 HP, 90.2%Eff	4942	4.652161863	22990.98392
ODP 1200 RPM, 10 HP, 91.7%Eff	4942	6.101417666	30153.20611
ODP 1200 RPM, 15 HP, 91.7%Eff	4942	9.152126499	45229.80916
ODP 1200 RPM, 20 HP, 92.4%Eff	4942	12.11038961	59849.54545
ODP 1200 RPM, 25 HP, 93%Eff	4942	15.04032258	74329.27419
ODP 1200 RPM, 30 HP, 93.6%Eff	4942	17.93269231	88623.36538
ODP 1200 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
ODP 1200 RPM, 50 HP, 94.1%Eff	4942	29.72901169	146920.7758
ODP 1200 RPM, 60 HP, 94.5%Eff	4942	35.52380952	175558.6667
ODP 1200 RPM, 75 HP, 94.5%Eff	4942	44.4047619	219448.3333
ODP 1200 RPM, 100 HP, 95%Eff	4942	58.89473684	291057.7895
ODP 1200 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
ODP 1200 RPM, 150 HP, 95.4%Eff	4942	87.97169811	434756.1321
ODP 1200 RPM, 200 HP, 95.4%Eff	4942	117.2955975	579674.8428
ODP 1800 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
ODP 1800 RPM, 20 HP, 93%Eff	4942	12.03225806	59463.41935
ODP 1800 RPM, 25 HP, 93.6%Eff	4942	14.94391026	73852.80449
ODP 1800 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
ODP 1800 RPM, 50 HP, 94.5%Eff	4942	29.6031746	146298.8889
ODP 1800 RPM, 60 HP, 95%Eff	4942	35.33684211	174634.6737
ODP 1800 RPM, 75 HP, 95%Eff	4942	44.17105263	218293.3421
ODP 1800 RPM, 125 HP, 95.4%Eff	4942	73.30974843	362296.7767
ODP 1800 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
ODP 1800 RPM, 200 HP, 95.8%Eff	4942	116.8058455	577254.4885
ODP 3600 RPM, 1 HP, 77%Eff	4942	0.726623377	3590.972727
ODP 3600 RPM, 1.5 HP, 84%Eff	4942	0.999107143	4937.5875
ODP 3600 RPM, 2 HP, 85.5%Eff	4942	1.30877193	6467.950877
ODP 3600 RPM, 3 HP, 85.5%Eff	4942	1.963157895	9701.926316
ODP 3600 RPM, 5 HP, 86.5%Eff	4942	3.234104046	15982.9422
ODP 3600 RPM, 7.5 HP, 88.5%Eff	4942	4.741525424	23432.61864
ODP 3600 RPM, 10 HP, 89.5%Eff	4942	6.251396648	30894.40223
ODP 3600 RPM, 15 HP, 90.2%Eff	4942	9.304323725	45981.96785

ODP 3600 RPM, 20 HP, 91%Eff	4942	12.2967033	60770.30769
ODP 3600 RPM, 25 HP, 91.7%Eff	4942	15.25354417	75383.01527
ODP 3600 RPM, 30 HP, 91.7%Eff	4942	18.304253	90459.61832
ODP 3600 RPM, 40 HP, 92.4%Eff	4942	24.22077922	119699.0909
ODP 3600 RPM, 50 HP, 93%Eff	4942	30.08064516	148658.5484
ODP 3600 RPM, 60 HP, 93.6%Eff	4942	35.86538462	177246.7308
ODP 3600 RPM, 75 HP, 93.6%Eff	4942	44.83173077	221558.4135
ODP 3600 RPM, 100 HP, 93.6%Eff	4942	59.77564103	295411.2179
ODP 3600 RPM, 125 HP, 94.1%Eff	4942	74.32252922	367301.9394
ODP 3600 RPM, 150 HP, 94.1%Eff	4942	89.18703507	440762.3273
ODP 3600 RPM, 200 HP, 95%Eff	4942	117.7894737	582115.5789
TEFC 1200 RPM, 1 HP, 82.5%Eff	4942	0.678181818	3351.574545
TEFC 1200 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
TEFC 1200 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
TEFC 1200 RPM, 7.5 HP, 91%Eff	4942	4.611263736	22788.86538
TEFC 1200 RPM, 10 HP, 91%Eff	4942	6.148351648	30385.15385
TEFC 1200 RPM, 15 HP, 91.7%Eff	4942	9.152126499	45229.80916
TEFC 1200 RPM, 20 HP, 91.7%Eff	4942	12.20283533	60306.41221
TEFC 1200 RPM, 30 HP, 93%Eff	4942	18.0483871	89195.12903
TEFC 1200 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
TEFC 1200 RPM, 50 HP, 94.1%Eff	4942	29.72901169	146920.7758
TEFC 1200 RPM, 60 HP, 94.5%Eff	4942	35.52380952	175558.6667
TEFC 1200 RPM, 75 HP, 94.5%Eff	4942	44.4047619	219448.3333
TEFC 1200 RPM, 100 HP, 95%Eff	4942	58.89473684	291057.7895
TEFC 1200 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
TEFC 1200 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
TEFC 1800 RPM, 1 HP, 85.5%Eff	4942	0.654385965	3233.975439
TEFC 1800 RPM, 1.5 HP, 86.5%Eff	4942	0.970231214	4794.882659
TEFC 1800 RPM, 2 HP, 86.5%Eff	4942	1.293641618	6393.176879
TEFC 1800 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
TEFC 1800 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
TEFC 1800 RPM, 7.5 HP, 91.7%Eff	4942	4.57606325	22614.90458
TEFC 1800 RPM, 10 HP, 91.7%Eff	4942	6.101417666	30153.20611
TEFC 1800 RPM, 15 HP, 92.4%Eff	4942	9.082792208	44887.15909
TEFC 1800 RPM, 20 HP, 93%Eff	4942	12.03225806	59463.41935
TEFC 1800 RPM, 30 HP, 93.6%Eff	4942	17.93269231	88623.36538
TEFC 1800 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
TEFC 1800 RPM, 50 HP, 94.5%Eff	4942	29.6031746	146298.8889
TEFC 1800 RPM, 100 HP, 95.4%Eff	4942	58.64779874	289837.4214
TEFC 1800 RPM, 125 HP, 95.4%Eff	4942	73.30974843	362296.7767
TEFC 1800 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
TEFC 1800 RPM, 200 HP, 96.2%Eff	4942	116.3201663	574854.262
TEFC 3600 RPM, 1 HP, 77%Eff	4942	0.726623377	3590.972727
TEFC 3600 RPM, 1.5 HP, 84%Eff	4942	0.999107143	4937.5875
TEFC 3600 RPM, 2 HP, 85.5%Eff	4942	1.30877193	6467.950877
TEFC 3600 RPM, 3 HP, 86.5%Eff	4942	1.940462428	9589.765318
TEFC 3600 RPM, 5 HP, 88.5%Eff	4942	3.161016949	15621.74576
TEFC 3600 RPM, 7.5 HP, 89.5%Eff	4942	4.688547486	23170.80168
TEFC 3600 RPM, 10 HP, 90.2%Eff	4942	6.202882483	30654.64523
TEFC 3600 RPM, 15 HP, 91%Eff	4942	9.222527473	45577.73077
TEFC 3600 RPM, 20 HP, 91.7%Eff	4942	12.20283533	60306.41221
TEFC 3600 RPM, 25 HP, 91.7%Eff	4942	15.25354417	75383.01527
TEFC 3600 RPM, 30 HP, 91.7%Eff	4942	18.304253	90459.61832
TEFC 3600 RPM, 40 HP, 92.4%Eff	4942	24.22077922	119699.0909
TEFC 3600 RPM, 50 HP, 93%Eff	4942	30.08064516	148658.5484

TEFC 3600 RPM, 60 HP, 93.6%Eff	4942	35.86538462	177246.7308
TEFC 3600 RPM, 75 HP, 93.6%Eff	4942	44.83173077	221558.4135
TEFC 3600 RPM, 100 HP, 94.1%Eff	4942	59.45802338	293841.5515
TEFC 3600 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
TEFC 3600 RPM, 150 HP, 95%Eff	4942	88.34210526	436586.6842
TEFC 3600 RPM, 200 HP, 95.4%Eff	4942	117.2955975	579674.8428
V-Belt with Motor Size: 1 HP, 75% Load Factor	4000	0.5625	2250
V-Belt with Motor Size: 1.5 HP, 75% Load Factor	4000	0.84	3360
V-Belt with Motor Size: 2 HP, 75% Load Factor	4000	1.1175	4470
V-Belt with Motor Size: 3 HP, 75% Load Factor	4000	1.68	6720
V-Belt with Motor Size: 5 HP, 75% Load Factor	4000	2.7975	11190
V-Belt with Motor Size: 7.5 HP, 75% Load Factor	4000	4.2	16800
V-Belt with Motor Size: 10 HP, 75% Load Factor	4000	5.595	22380
V-Belt with Motor Size: 15 HP, 75% Load Factor	4000	8.3925	33570
V-Belt with Motor Size: 20 HP, 75% Load Factor	4000	11.19	44760
V-Belt with Motor Size: 25 HP, 75% Load Factor	4000	13.9875	55950
V-Belt with Motor Size: 30 HP, 75% Load Factor	4000	16.785	67140
V-Belt with Motor Size: 40 HP, 75% Load Factor	4000	22.38	89520
V-Belt with Motor Size: 50 HP, 75% Load Factor	4000	27.975	111900
V-Belt with Motor Size: 60 HP, 75% Load Factor	4000	33.57	134280
V-Belt with Motor Size: 75 HP, 75% Load Factor	4000	41.9625	167850
V-Belt with Motor Size: 100 HP, 75% Load Factor	4000	55.95	223800
No VFD installed, Motor is at 75% Load Factor	4000	0.5625	2250
No VFD installed, Motor is at 75% Load Factor	4000	0.84	3360
No VFD installed, Motor is at 75% Load Factor	4000	1.1175	4470
No VFD installed, Motor is at 75% Load Factor	4000	1.68	6720
No VFD installed, Motor is at 75% Load Factor	4000	2.7975	11190
No VFD installed, Motor is at 75% Load Factor	4000	4.2	16800
No VFD installed, Motor is at 75% Load Factor	4000	5.595	22380
No VFD installed, Motor is at 75% Load Factor	4000	8.3925	33570
No VFD installed, Motor is at 75% Load Factor	4000	11.19	44760
No VFD installed, Motor is at 75% Load Factor	4000	13.9875	55950
No VFD installed, Motor is at 75% Load Factor	4000	16.785	67140
No VFD installed, Motor is at 75% Load Factor	4000	22.38	89520
No VFD installed, Motor is at 75% Load Factor	4000	27.975	111900
No VFD installed, Motor is at 75% Load Factor	4000	33.57	134280
No VFD installed, Motor is at 75% Load Factor	4000	41.9625	167850
No VFD installed, Motor is at 75% Load Factor	4000	55.95	223800
ODP 1200 RPM, 1.5 HP, 86.5%Eff	4942	0.970231214	4794.882659
ODP 1200 RPM, 2 HP, 87.5%Eff	4942	1.278857143	6320.112
ODP 1200 RPM, 3 HP, 88.5%Eff	4942	1.896610169	9373.047458
ODP 1200 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
ODP 1200 RPM, 7.5 HP, 90.2%Eff	4942	4.652161863	22990.98392
ODP 1200 RPM, 10 HP, 91.7%Eff	4942	6.101417666	30153.20611
ODP 1200 RPM, 15 HP, 91.7%Eff	4942	9.152126499	45229.80916
ODP 1200 RPM, 20 HP, 92.4%Eff	4942	12.11038961	59849.54545
ODP 1200 RPM, 25 HP, 93%Eff	4942	15.04032258	74329.27419
ODP 1200 RPM, 30 HP, 93.6%Eff	4942	17.93269231	88623.36538
ODP 1200 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
ODP 1200 RPM, 50 HP, 94.1%Eff	4942	29.72901169	146920.7758
ODP 1200 RPM, 60 HP, 94.5%Eff	4942	35.52380952	175558.6667
ODP 1200 RPM, 75 HP, 94.5%Eff	4942	44.4047619	219448.3333
ODP 1200 RPM, 100 HP, 95%Eff	4942	58.89473684	291057.7895
ODP 1200 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
ODP 1200 RPM, 150 HP, 95.4%Eff	4942	87.97169811	434756.1321

ODP 1200 RPM, 200 HP, 95.4%Eff	4942	117.2955975	579674.8428
ODP 1800 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
ODP 1800 RPM, 20 HP, 93%Eff	4942	12.03225806	59463.41935
ODP 1800 RPM, 25 HP, 93.6%Eff	4942	14.94391026	73852.80449
ODP 1800 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
ODP 1800 RPM, 50 HP, 94.5%Eff	4942	29.6031746	146298.8889
ODP 1800 RPM, 60 HP, 95%Eff	4942	35.33684211	174634.6737
ODP 1800 RPM, 75 HP, 95%Eff	4942	44.17105263	218293.3421
ODP 1800 RPM, 125 HP, 95.4%Eff	4942	73.30974843	362296.7767
ODP 1800 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
ODP 1800 RPM, 200 HP, 95.8%Eff	4942	116.8058455	577254.4885
ODP 3600 RPM, 1 HP, 77%Eff	4942	0.726623377	3590.972727
ODP 3600 RPM, 1.5 HP, 84%Eff	4942	0.999107143	4937.5875
ODP 3600 RPM, 2 HP, 85.5%Eff	4942	1.30877193	6467.950877
ODP 3600 RPM, 3 HP, 85.5%Eff	4942	1.963157895	9701.926316
ODP 3600 RPM, 5 HP, 86.5%Eff	4942	3.234104046	15982.9422
ODP 3600 RPM, 7.5 HP, 88.5%Eff	4942	4.741525424	23432.61864
ODP 3600 RPM, 10 HP, 89.5%Eff	4942	6.251396648	30894.40223
ODP 3600 RPM, 15 HP, 90.2%Eff	4942	9.304323725	45981.96785
ODP 3600 RPM, 20 HP, 91%Eff	4942	12.2967033	60770.30769
ODP 3600 RPM, 25 HP, 91.7%Eff	4942	15.25354417	75383.01527
ODP 3600 RPM, 30 HP, 91.7%Eff	4942	18.304253	90459.61832
ODP 3600 RPM, 40 HP, 92.4%Eff	4942	24.22077922	119699.0909
ODP 3600 RPM, 50 HP, 93%Eff	4942	30.08064516	148658.5484
ODP 3600 RPM, 60 HP, 93.6%Eff	4942	35.86538462	177246.7308
ODP 3600 RPM, 75 HP, 93.6%Eff	4942	44.83173077	221558.4135
ODP 3600 RPM, 100 HP, 93.6%Eff	4942	59.77564103	295411.2179
ODP 3600 RPM, 125 HP, 94.1%Eff	4942	74.32252922	367301.9394
ODP 3600 RPM, 150 HP, 94.1%Eff	4942	89.18703507	440762.3273
ODP 3600 RPM, 200 HP, 95%Eff	4942	117.7894737	582115.5789
TEFC 1200 RPM, 1 HP, 82.5%Eff	4942	0.678181818	3351.574545
TEFC 1200 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
TEFC 1200 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
TEFC 1200 RPM, 7.5 HP, 91%Eff	4942	4.611263736	22788.86538
TEFC 1200 RPM, 10 HP, 91%Eff	4942	6.148351648	30385.15385
TEFC 1200 RPM, 15 HP, 91.7%Eff	4942	9.152126499	45229.80916
TEFC 1200 RPM, 20 HP, 91.7%Eff	4942	12.20283533	60306.41221
TEFC 1200 RPM, 30 HP, 93%Eff	4942	18.0483871	89195.12903
TEFC 1200 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
TEFC 1200 RPM, 50 HP, 94.1%Eff	4942	29.72901169	146920.7758
TEFC 1200 RPM, 60 HP, 94.5%Eff	4942	35.52380952	175558.6667
TEFC 1200 RPM, 75 HP, 94.5%Eff	4942	44.4047619	219448.3333
TEFC 1200 RPM, 100 HP, 95%Eff	4942	58.89473684	291057.7895
TEFC 1200 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
TEFC 1200 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
TEFC 1800 RPM, 1 HP, 85.5%Eff	4942	0.654385965	3233.975439
TEFC 1800 RPM, 1.5 HP, 86.5%Eff	4942	0.970231214	4794.882659
TEFC 1800 RPM, 2 HP, 86.5%Eff	4942	1.293641618	6393.176879
TEFC 1800 RPM, 3 HP, 89.5%Eff	4942	1.875418994	9268.32067
TEFC 1800 RPM, 5 HP, 89.5%Eff	4942	3.125698324	15447.20112
TEFC 1800 RPM, 7.5 HP, 91.7%Eff	4942	4.57606325	22614.90458
TEFC 1800 RPM, 10 HP, 91.7%Eff	4942	6.101417666	30153.20611
TEFC 1800 RPM, 15 HP, 92.4%Eff	4942	9.082792208	44887.15909
TEFC 1800 RPM, 20 HP, 93%Eff	4942	12.03225806	59463.41935
TEFC 1800 RPM, 30 HP, 93.6%Eff	4942	17.93269231	88623.36538

TEFC 1800 RPM, 40 HP, 94.1%Eff	4942	23.78320935	117536.6206
TEFC 1800 RPM, 50 HP, 94.5%Eff	4942	29.6031746	146298.8889
TEFC 1800 RPM, 100 HP, 95.4%Eff	4942	58.64779874	289837.4214
TEFC 1800 RPM, 125 HP, 95.4%Eff	4942	73.30974843	362296.7767
TEFC 1800 RPM, 150 HP, 95.8%Eff	4942	87.60438413	432940.8664
TEFC 1800 RPM, 200 HP, 96.2%Eff	4942	116.3201663	574854.262
TEFC 3600 RPM, 1 HP, 77%Eff	4942	0.726623377	3590.972727
TEFC 3600 RPM, 1.5 HP, 84%Eff	4942	0.999107143	4937.5875
TEFC 3600 RPM, 2 HP, 85.5%Eff	4942	1.30877193	6467.950877
TEFC 3600 RPM, 3 HP, 86.5%Eff	4942	1.940462428	9589.765318
TEFC 3600 RPM, 5 HP, 88.5%Eff	4942	3.161016949	15621.74576
TEFC 3600 RPM, 7.5 HP, 89.5%Eff	4942	4.688547486	23170.80168
TEFC 3600 RPM, 10 HP, 90.2%Eff	4942	6.202882483	30654.64523
TEFC 3600 RPM, 15 HP, 91%Eff	4942	9.222527473	45577.73077
TEFC 3600 RPM, 20 HP, 91.7%Eff	4942	12.20283533	60306.41221
TEFC 3600 RPM, 25 HP, 91.7%Eff	4942	15.25354417	75383.01527
TEFC 3600 RPM, 30 HP, 91.7%Eff	4942	18.304253	90459.61832
TEFC 3600 RPM, 40 HP, 92.4%Eff	4942	24.22077922	119699.0909
TEFC 3600 RPM, 50 HP, 93%Eff	4942	30.08064516	148658.5484
TEFC 3600 RPM, 60 HP, 93.6%Eff	4942	35.86538462	177246.7308
TEFC 3600 RPM, 75 HP, 93.6%Eff	4942	44.83173077	221558.4135
TEFC 3600 RPM, 100 HP, 94.1%Eff	4942	59.45802338	293841.5515
TEFC 3600 RPM, 125 HP, 95%Eff	4942	73.61842105	363822.2368
TEFC 3600 RPM, 150 HP, 95%Eff	4942	88.34210526	436586.6842
TEFC 3600 RPM, 200 HP, 95.4%Eff	4942	117.2955975	579674.8428
V-Belt with Motor Size: 1 HP, 75% Load Factor	4000	0.5625	2250
V-Belt with Motor Size: 1.5 HP, 75% Load Factor	4000	0.84	3360
V-Belt with Motor Size: 2 HP, 75% Load Factor	4000	1.1175	4470
V-Belt with Motor Size: 3 HP, 75% Load Factor	4000	1.68	6720
V-Belt with Motor Size: 5 HP, 75% Load Factor	4000	2.7975	11190
V-Belt with Motor Size: 7.5 HP, 75% Load Factor	4000	4.2	16800
V-Belt with Motor Size: 10 HP, 75% Load Factor	4000	5.595	22380
V-Belt with Motor Size: 15 HP, 75% Load Factor	4000	8.3925	33570
V-Belt with Motor Size: 20 HP, 75% Load Factor	4000	11.19	44760
V-Belt with Motor Size: 25 HP, 75% Load Factor	4000	13.9875	55950
V-Belt with Motor Size: 30 HP, 75% Load Factor	4000	16.785	67140
V-Belt with Motor Size: 40 HP, 75% Load Factor	4000	22.38	89520
V-Belt with Motor Size: 50 HP, 75% Load Factor	4000	27.975	111900
V-Belt with Motor Size: 60 HP, 75% Load Factor	4000	33.57	134280
V-Belt with Motor Size: 75 HP, 75% Load Factor	4000	41.9625	167850
V-Belt with Motor Size: 100 HP, 75% Load Factor	4000	55.95	223800
No VFD installed, Motor is at 75% Load Factor	4000	0.5625	2250
No VFD installed, Motor is at 75% Load Factor	4000	0.84	3360
No VFD installed, Motor is at 75% Load Factor	4000	1.1175	4470
No VFD installed, Motor is at 75% Load Factor	4000	1.68	6720
No VFD installed, Motor is at 75% Load Factor	4000	2.7975	11190
No VFD installed, Motor is at 75% Load Factor	4000	4.2	16800
No VFD installed, Motor is at 75% Load Factor	4000	5.595	22380
No VFD installed, Motor is at 75% Load Factor	4000	8.3925	33570
No VFD installed, Motor is at 75% Load Factor	4000	11.19	44760
No VFD installed, Motor is at 75% Load Factor	4000	13.9875	55950
No VFD installed, Motor is at 75% Load Factor	4000	16.785	67140
No VFD installed, Motor is at 75% Load Factor	4000	22.38	89520
No VFD installed, Motor is at 75% Load Factor	4000	27.975	111900
No VFD installed, Motor is at 75% Load Factor	4000	33.57	134280

No VFD installed, Motor is at 75% Load Factor	4000	41.9625	167850
No VFD installed, Motor is at 75% Load Factor	4000	55.95	223800
Standard Clothes Washer	-	-	743
Standard Dishwasher	-	-	355
Standard Refrigerator	-	-	553
No In-suite temperature controls for electric space heati	-	-	-
No In-suite temperature controls for electric space cooli	-	-	-
No In-suite temperature controls for electric space heati	-	-	-
Standard Clothes Washer	-	-	743
Standard Dishwasher	-	-	355
Standard Refrigerator	-	-	553
No In-suite temperature controls for electric space heati	-	-	-
No In-suite temperature controls for electric space cooli	-	-	-
No In-suite temperature controls for electric space heati	-	-	-
Split system < 5.4 tons, Electric Resistance, 13SEER (p	600	1.077199282	646.3195691
Split system < 5.4 tons, All Other, 13SEER (per ton)	600	1.077199282	646.3195691
Single package < 5.4 tons, Electric Resistance, 13SEER	600	1.077199282	646.3195691
Single package < 5.4 tons, All Other, 13SEER (per ton)	600	1.077199282	646.3195691
Split system/Single package ≥ 5.4 to < 11.25 tons, Elec	600	1.071428571	642.8571429
Split system/Single package ≥ 5.4 to < 11.25 tons, All O	600	1.090909091	654.5454545
Split system/Single package ≥ 11.25 to < 20 tons, Elect	600	1.090909091	654.5454545
Split system/Single package ≥ 11.25 to < 20 tons, All Ot	600	1.111111111	666.6666667
Split system/Single package ≥ 20 to < 63 tons, Electric	600	1.2	720
Split system/Single package ≥ 20 to < 63 tons, All Other	600	1.224489796	734.6938776
Split system/Single package > 63 tons, Electric Resistar	600	1.237113402	742.2680412
Split system/Single package > 63 tons, All Other, 9.5 EE	600	1.263157895	757.8947368
Split system < 5.4 tons, Electric Resistance, 13SEER (p	600	1.077199282	646.3195691
Split system < 5.4 tons, All Other, 13SEER (per ton)	600	1.077199282	646.3195691
Single package < 5.4 tons, Electric Resistance, 13SEER	600	1.077199282	646.3195691
Single package < 5.4 tons, All Other, 13SEER (per ton)	600	1.077199282	646.3195691
Split system/Single package ≥ 5.4 to < 11.25 tons, Elec	600	1.071428571	642.8571429
Split system/Single package ≥ 5.4 to < 11.25 tons, All O	600	1.090909091	654.5454545
Split system/Single package ≥ 11.25 to < 20 tons, Elect	600	1.090909091	654.5454545
Split system/Single package ≥ 11.25 to < 20 tons, All Ot	600	1.111111111	666.6666667
Split system/Single package ≥ 20 to < 63 tons, Electric	600	1.2	720
Split system/Single package ≥ 20 to < 63 tons, All Other	600	1.224489796	734.6938776
Split system/Single package > 63 tons, Electric Resistar	600	1.237113402	742.2680412
Split system/Single package > 63 tons, All Other, 9.5 EE	600	1.263157895	757.8947368
Split system, < 5.4 tons, All Heating Type, 13 SEER (pe	600	1.077199282	646.3195691
Single package, < 5.4 tons, All Heating Type, 13 SEER	600	1.077199282	646.3195691
Split system/single package, ≥ 5.4 to < 7.0 tons, Electric	600	1.071428571	642.8571429
Split system/single package, ≥ 5.4 to < 7.0 tons, All Oth	600	1.090909091	654.5454545
Standard Freezer	8760	0.458333333	4015
Standard Freezer	8760	0.864583333	7573.75
Standard Freezer	8760	1.486458333	13021.375
Standard Freezer	8760	2.027083333	17757.25
Standard Freezer	8760	0.210833333	1846.9
Standard Freezer	8760	0.4275	3744.9
Standard Freezer	8760	0.759166667	6650.3
Standard Freezer	8760	1.0475	9176.1
Standard Freezer	8760	0.180666667	1582.64
Standard Freezer	8760	0.245166667	2147.66
Standard Freezer	8760	0.349166667	3058.7
Standard Freezer	8760	0.474166667	4153.7
Standard Freezer	8760	0.119583333	1047.55

Standard Freezer	8760	0.173333333	1518.4
Standard Freezer	8760	0.26	2277.6
Standard Freezer	8760	0.364166667	3190.1
Shaded Pole Motor (SP)	8760	0.156817976	1373.725474
Permanent Split Capacitor (PSC)	8760	0.065340824	572.3856141
Shaded Pole Motor (SP)	8760	1.568179765	13737.25474
Permanent Split Capacitor (PSC)	8760	0.653408235	5723.856141
Permanent Split Capacitor (PSC)	8760	1.306816471	11447.71228
Shaded Pole Motor (SP)	8273	0.198673364	1643.624737
Permanent Split Capacitor (PSC)	8273	0.082780568	684.8436406
Shaded Pole Motor (SP)	8273	1.986733636	16436.24737
Permanent Split Capacitor (PSC)	8273	0.827805682	6848.436406
Permanent Split Capacitor (PSC)	8273	1.655611364	13696.87281
Shaded Pole Motor (SP) or Permanent Split Capacitor (-	-	-
Standard Compressor	5858	0.414	2425.212
Standard Compressor	5858	0.414	2425.212
Shaded Pole Motor (SP)	8273	0.198673364	1643.624737
Permanent Split Capacitor (PSC)	8273	0.082780568	684.8436406
Shaded Pole Motor (SP)	8273	1.986733636	16436.24737
Permanent Split Capacitor (PSC)	8273	0.827805682	6848.436406
Permanent Split Capacitor (PSC)	8273	1.655611364	13696.87281
VAV Box with PSC motors	3000	-	-
Standard ice machines	8760	0.577928489	5062.653563
Standard ice machines	8760	1.324501294	11602.63134
Standard ice machines	8760	1.03223039	9042.338219
Standard ice machines	8760	2.336158854	20464.75156
Standard ice machines	8760	1.001694013	8774.83955
Standard ice machines	8760	1.737019583	15216.29155
Standard ice machines	8760	0.295427635	2587.946086
Standard ice machines	8760	0.533588611	4674.236233
Standard beverage vending machines	8760	-	-
Standard beverage vending machines	8760	-	-
Standard beverage vending machines	8760	-	-
Standard beverage vending machines	8760	-	-
Standard beverage vending machines	8760	-	-
No software installed	8760	0.0426	373.176
4' -T8-32W-Electronic Ballasts - 1 Lamp	3911	0.048	187.728
4' -T8-32W-Electronic Ballasts - 1 Lamp	3911	0.048	187.728
4' -T8-32W-Electronic Ballasts - 1 Lamp	3911	0.048	187.728
4' -T8-32W-Electronic Ballasts - 1 Lamp	3911	0.082	320.702
4' -T8-32W-Electronic Ballasts - 2 Lamps	3911	0.082	320.702
4' -T8-32W-Electronic Ballasts - 2 Lamps	3911	0.082	320.702
4' -T8-32W-Electronic Ballasts - 2 Lamps	3911	0.082	320.702
4' -T8-32W-Electronic Ballasts - 2 Lamps	3911	0.144	563.184
4' -T8-32W-Electronic Ballasts - 4 Lamps	3911	0.144	563.184
4' -T8-32W-Electronic Ballasts - 4 Lamps	3911	0.144	563.184
4' -T8-32W-Electronic Ballasts - 4 Lamps	3911	0.144	563.184
4' -T8 32W-Magnetic Ballasts - 2 Lamps	3911	0.071	277.681
4' -T8 32W-Magnetic Ballasts - 4 Lamps	3911	0.142	555.362
175W Metal Halide	3870	0.175	677.25
400W Metal Halide	3870	0.4	1548
250W Metal Halide	3870	0.295	1141.65
250W Metal Halide	3870	0.295	1141.65
250W Metal Halide	3870	0.295	1141.65
400W Metal Halide	3870	0.458	1772.46

400W Metal Halide	3870	0.458	1772.46
400W Metal Halide	3870	0.458	1772.46
250W Metal Halide	3870	0.295	1141.65
250W Metal Halide	3870	0.295	1141.65
250W Metal Halide	3870	0.295	1141.65
400W Metal Halide	3870	0.458	1772.46
400W Metal Halide	3870	0.458	1772.46
400W Metal Halide	3870	0.458	1772.46
11-13W Compact Fluorescent Lamp	3911	0.012	46.932
15-23W Compact Fluorescent Lamp	3911	0.019	74.309
25+W Compact Fluorescent Lamp	3911	0.027	105.597
25+W Compact Fluorescent Lamp Weatherproof	3911	0.027	105.597
20-35W Incandescent PAR16	3911	0.0275	107.5525
35-50W Incandescent PAR16	3911	0.0425	166.2175
50-75W Incandescent PAR20	3911	0.0625	244.4375
35-50W Incandescent PAR30	3911	0.0425	166.2175
75-100W Incandescent PAR30	3911	0.0875	342.2125
60-75W Incandescent PAR38	3911	0.0675	263.9925
75-100W Incandescent PAR38	3911	0.0875	342.2125
20-35W Halogen or Incandescent	3911	0.0275	107.5525
35-50W Halogen or Incandescent	3911	0.0425	166.2175
20-35W Halogen or Incandescent	3911	0.0275	107.5525
50-60W Halogen or Incandescent	3911	0.055	215.105
2 x 60W Incandescent bulbs with a conventional On/Off	985.5	0.12	118.26
No holiday lighting timer	-	-	40.6
No outdoor lighting timer	-	-	295.1
Conventional light fixtures with no control devices	-	0.12	107.31
Conventional light fixtures with no control devices	-	0.12	77.745
Non-programmable thermostats installed on baseboard	-	-	2486.34
Baseline mix (incandescent/halogen, CFL, LED)	1277	0.031	39.587
Baseline mix (incandescent/halogen, CFL, LED)	1736	0.028	48.608
Baseline mix (incandescent/halogen, CFL, LED)	1213	0.0201	24.3813
Baseline mix (incandescent/halogen, CFL, LED)	1710	0.009	15.39
Existing Ceiling Fan	-	-	139.1
Existing Light Fixture	-	-	104.3
Baseline mix (incandescent and fluorescents)	1330	0.043	57.19
Baseline mix (incandescent, CFL, LED)	758.3614865	0.0379	28.74190034
Baseline mix (incandescent, CFL, LED)	1163.890949	0.0115	13.38474592
Baseline mix (incandescent, CFL, LED)	1210.043912	0.0133	16.09358403
Baseline mix (incandescent, CFL, LED)	1038.752321	0.0133	13.81540586
Baseline mix (incandescent, CFL, LED)	1201.637543	0.0583	70.05546874
Baseline mix (incandescent, CFL, LED)	1423.5	0.0583	82.99005
Baseline mix (incandescent, CFL, LED)	1606	0.0489	78.5334
Baseline mix (incandescent, CFL, LED)	1606	0.0379	60.8674
Clothes Dryer (141 loads/yr)	-	-	217.4
No timer on the spa pump	-	-	808
No timer on the car block heater	-	-	637.8
No timer on the pool pumps	-	-	1955
No Power Bar	-	-	54.37
No Power Bar	-	-	32.14
No Weatherstripping (Electric Heat)	-	-	3860.85812
With Existing Weatherstripping (Electric Heat)	-	-	3860.85812
With Existing Weatherstripping (Electric Heat)	-	-	3860.85812
No Weatherstripping (Electric Heat)	-	-	3860.9
With Existing Weatherstripping (Electric Heat)	-	-	3860.9

With Existing Weatherstripping (Electric Heat)	-	-	3860.9
No pipe insulation	-	-	-
No Water Heater Blanket	8760	-	802
Old Water Heater Blanket	-	-	802
Baseline mix (incandescent, CFL, LED)	985.5	0.018	17.739
Baseline mix (incandescent, CFL, LED)	985.5	0.02	19.71
Baseline mix (incandescent, CFL, LED)	985.5	0.027	26.6085
Baseline mix (incandescent, CFL, LED)	985.5	0.028	27.594
Baseline mix (incandescent, CFL, LED)	985.5	0.035	34.4925
Baseline mix (incandescent, CFL, LED)	985.5	0.037	36.4635
Baseline mix (incandescent, CFL, LED)	985.5	0.047	46.3185
Baseline mix (incandescent, CFL, LED)	985.5	0.048	47.304
Baseline mix (incandescent, CFL, LED)	985.5	0.049	48.2895
Standard Freezer	8760	-	1302.148
Standard Freezer	8760	-	1183.5
Standard Refrigerator	8760	-	1214
Standard Refrigerator	8760	-	1125.378
Non-Energy Star® Dehumidifier	4032	0.24425	984.816
Non-Energy Star® Dehumidifier	4032	0.24425	984.816
Non-Energy Star® Room Air Conditioner	310.6	1.1958	371.41548
Non-Energy Star® Room Air Conditioner	310.6	1.1958	371.41548
Non-Energy Star® Dehumidifier	4032	0.24425	984.816
Non-Energy Star® Dehumidifier	4032	0.24425	984.816
Elec furnace with PSC motor continuous - heat/cool - ex	-	-	33473
Elec furnace with PSC motor continuous - heat/cool - ne	-	-	23182
Elec furnace with PSC motor continous - heat only - exi	-	-	30792
Elec furnace with PSC motor continuous - heat only - ne	-	-	20050
Elec furnace with PSC motor continuous - heat/cool - ex	-	-	33473
Elec furnace with PSC motor continuous - heat/cool - ne	-	-	23182
Elec furnace with PSC motor continous - heat only - exi	-	-	30792
Elec furnace with PSC motor continuous - heat only - ne	-	-	20050
Elec furnace with PSC motor non-continuous - heat/coo	-	-	21955
Elec furnace with PSC motor non-continuous - heat only	-	-	31354
Elec Furnace with PSC motor non-continous - heat only	-	-	20244
Elec furnace with PSC motor non-continuous - heat/coo	-	-	32696
SEER 13 Central Air Conditioner	500	2	1000
SEER 13 Central Air Conditioner	500	2	1000
SEER 13 Central Air Conditioner	500	2	1000
SEER 13 Central Air Conditioner	500	2	1000
Gas furnace with PSC motor continuous - heat/cool - ex	-	-	4827
Gas furnace with PSC continuous - heat/cool - new hom	-	-	5140
Gas furnace with PSC motor continuous - heat only - ex	-	-	2146
Gas furnace with PSC motor continuous - heat only - ne	-	-	2008
Electric furnace with PSC motor continuous - heat/cool	-	-	13384
Electric furnace with PSC motor continuous - heat/cool	-	-	13697
Electric furnace with PSC motor continuous - heat only	-	-	10703
Electric furnace with PSC motor continuous - heat only	-	-	10565
Gas furnace with PSC motor continuous - heat/cool - ex	-	-	4827
Gas furnace with PSC motor continuous - heat/cool - ne	-	-	5140
Gas furnace with PSC motor continuous - heat only - ex	-	-	2146
Gas furnace with PSC motor continuous - heat only - ne	-	-	2008
Electric furnace with PSC motor continuous - heat/cool	-	-	13384
Electric furnace with PSC motor continuous - heat/cool	-	-	13697
Electric furnace with PSC motor continuous - heat only	-	-	10703
Electric furnace with PSC motor continuous - heat only	-	-	10565

Gas furnace with PSC motor non-continuous - heat/coo	-	-	2146
Gas Furnace with PSC motor non-continuous - heat/coo	-	-	2226
Gas furnace with PSC motor non-continuous - heat only	-	-	804
Gas furnace with PSC motor non-continuous - heat only	-	-	515
Electric furnace with PSC motor non-continuous - heat/c	-	-	10703
Electric furnace with PSC motor non-continuous - heat/c	-	-	10783
Electric furnace with PSC motor non-continuous - heat c	-	-	9361
Electric furnace with PSC motor non-continuous - heat c	-	-	9072
Non-programmable thermostats installed on baseboard	-	-	-
Non-programmable thermostat	-	-	-
Standard Freezer	-	-	-
Standard Freezer	-	-	-
Standard Refrigerator	-	-	-
Standard Refrigerator	-	-	-
Standard Refrigerator	-	-	-
60-75-100W Incandescent	-	-	-
60W Incandescent Bulb	-	-	-
75W Incandescent Bulb	-	-	-
100W Incandescent Bulb	-	-	-
60W Incandescent Bulb	-	-	-
75W Incandescent Bulb	-	-	-
100W Incandescent Bulb	-	-	-
100W Incandescent Bulb	-	-	-
Aerator with Flow Rate = 8.3 L/min	-	-	-
Aerator with Flow Rate = 8.3 L/min	-	-	-
Showerhead with Flow Rate = 7.57 L/min	-	-	-
Showerhead with Flow Rate = 7.57 L/min	-	-	-
No timer on the car block heater	-	-	-
No Power Bar	-	-	-
Non-Energy Star® Dehumidifier	-	-	-
Non-Energy Star® Dehumidifier	-	-	-
Non-Energy Star® Dehumidifier	-	-	-
Non-Energy Star® Room Air Conditioner	-	-	-
Non-Energy Star® Room Air Conditioner	-	-	-
Non-Energy Star® Room Air Conditioner	-	-	-
No pipe insulation	-	-	-
No pipe insulation	-	-	-
No Water Heater Blanket	-	-	-
2 x 60W Incandescent bulbs with a conventional On/Off	985.5	0.12	118.26
Conventional light fixtures with no control devices	-	0.12	107.31
Conventional light fixtures with no control devices	-	0.12	77.745
Conventional light fixtures with no control devices	-	0.18	157.203675
Wall-mounted 2 socket security/spotlight / typical one so	-	-	420.58
Compact Fluorescent Lamps	-	-	-
Incandescent Lamps	-	-	-
Incandescent Lamps	-	-	-
Compact Fluorescent Lamps	-	-	-
Incandescent Lamps	-	-	-
No controls installed	-	-	-
NO BTM	8760		
NO BTM	8760		
NO BTM	6000		
NO BTM	6000		
NO BTM	4000		
NO BTM	4000		

HISTORICAL PERFORMANCE	895	1.1647	1041.55
HISTORICAL PERFORMANCE	895	1.2336	1103.15
HISTORICAL PERFORMANCE	1942	1.5611	3031.25
HISTORICAL PERFORMANCE	1	1.0020	2028.92
HISTORICAL PERFORMANCE	1	1.2336	1103.15
HISTORICAL PERFORMANCE	1	14.2149	1
HISTORICAL PERFORMANCE	1	0.000	0.00
BUSINESS CASE	1		
NO BTM	1		
HISTORICAL PERFORMANCE	1	14.2149	81593.53
HISTORICAL PERFORMANCE	1	1.0020	2028.92
HISTORICAL PERFORMANCE	1	1.5611	1.00
HISTORICAL PERFORMANCE	1	11.976	59881.44
HISTORICAL PERFORMANCE	1	14.2149	81593.53
Split system < 5.4 tons, Electric Resistance, 13SEER (p	600	1.077199282	646.3195691
HISTORICAL PERFORMANCE	1	1.0883	9544.40
HISTORICAL PERFORMANCE	2000	1.0020	2028.92
HISTORICAL PERFORMANCE	1	1.5611	1.00
20-35W Incandescent PAR16	1	0.0275	107.5525
Standard Refrigerator	1	-	1
Unknown Thermostat	1800	0.130276	233
Unknown Thermostat	1800	0.748668	1339
Miscellaneous	1	0.000	0.00
HISTORICAL PERFORMANCE	1	0	1
HISTORICAL PERFORMANCE	1	0	1
HISTORICAL PERFORMANCE	1	1.3260	1.00
HISTORICAL PERFORMANCE	8760	1.0883	9544.40
HISTORICAL PERFORMANCE	3130	34.7238	108685.49
HISTORICAL PERFORMANCE	8760	5.235	52766.12
HISTORICAL PERFORMANCE	1	0	1
HISTORICAL PERFORMANCE	2000	0.0000	1.00
HISTORICAL PERFORMANCE	1	1.0020	2028.92
HISTORICAL PERFORMANCE	1	1.0020	2028.92
Clothes Dryer (141 loads/yr)	-	-	217.4
SEER 14.5 CAC	282	1	282
NO BTM	8700	0.000	1.00
NO BTM	8700	0.000	1.00
HISTORICAL PERFORMANCE	1000	n/a	n/a
Split system/Single package ≥ 20 to < 63 tons, All Other	600	1.224489796	734.6938776
HISTORICAL PERFORMANCE	1000	n/a	n/a
HISTORICAL PERFORMANCE	1000	n/a	n/a
HISTORICAL PERFORMANCE	3700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
NO BTM	8700	n/a	n/a
HISTORICAL PERFORMANCE	4940	n/a	n/a
HISTORICAL PERFORMANCE	6037	n/a	n/a
HISTORICAL PERFORMANCE	4940	n/a	n/a
HISTORICAL PERFORMANCE	8760	n/a	n/a

BUSINESS CASE	3440	n/a	n/a
NO BTM	8700	n/a	n/a
HISTORICAL PERFORMANCE	8760	n/a	n/a
HISTORICAL PERFORMANCE	4940	n/a	n/a
HISTORICAL PERFORMANCE	2000	n/a	n/a

CONSERVATION CASE KW	CONSERVATION CASE KWH	FIRST YEAR DEMAND SAVINGS (KW)	FIRST YEAR ENERGY SAVINGS (KWH)	PEAK DEMAND SAVINGS (KW)
1	4940	10.98	54941.44	10.97601
1	2148	4.86	11585.97	4.85636
1	6037	12.00	72377.94	11.99859
1	3610	4.69	18019.10	4.69208
1	8760	4.24	44006.12	4.23529
1	894	0.16	147.30	0.835285
1	894	0.23	208.90	0.766400
1	1942	0.56	1089.52	0.438890
1	979	0.27	267.58	0.726571
1	1864	0.44	823.50	0.558256
1	7241	0.13	967.29	0.866407
1	6804	0.13	887.29	0.869596
1	2000	0.00	28.92	0.001960
1	2000	0.00	33.45	0.002323
1	8760	0.33	2919.39	0.674034
1	8760	0.09	784.40	0.911745
1	3130	33.72	105555.49	33.7238
0	0	0.16	1126.60	0.16000
0	0	0.96	6759.30	0.96000
0	0	0.64	4506.20	0.64000
1	5740	13.21	75853.53	13.21
0.08	552	0.095	655.5	0.049750769
0.16	1104	0.19	1311	0.120679231
0	0	1.575	882	0.723013846
4.778	32968.2	1.347	9294.3	1.060503462
0.38	1065.52	0.095	266.38	0.078138133
0.487394958	1366.655462	0.194957983	546.6621849	0.160354241
0.666666667	894.6666667	0.233333333	313.1333333	0.155522889
1.113636364	1494.5	0.193030303	259.0466667	0.128659844
0.904242424	2622.30303	0.904242424	2622.30303	0.895617343
1.356363636	3933.454545	2.260606061	6555.757576	2.239043357
1.808484848	5244.606061	1.808484848	5244.606061	1.791234685
0.3	420	0.7	980	0
1.1	3842.003286	0	3384.996714	0.633601949
0	0	0.4	2803.2	0.403948308
0	0	0.34	2382.72	0.343356062

0	0	1.13	7919.04	1.141153969
0	0	0.015	105.12	0.015148062
0	0	0.005	35.04	0.005049354
0	0	0.035	245.28	0
0	0	0.035	122.5	0
0	0	1.26	8830.08	1.272437169
0.08	552	0.095	655.5	0.049750769
0.16	1104	0.19	1311	0.120679231
0.3	420	0.7	980	0
0	0	0.4	2803.2	0.403948308
0	0	0.34	2382.72	0.343356062
0	0	1.13	7919.04	1.141153969
0	0	0.015	105.12	0.015148062
0	0	0.005	35.04	0.005049354
0	0	0.035	245.28	0
0	0	1.26	8830.08	1.272437169
0.0075	36	0.0075	36	0.006886154
0.011	66.814	0.007	42.518	0.006039712
0.011	57.002	0.007	36.274	0.004841748
0.011	86.724	0.007	55.188	0.006665862
0.011	44.979	0.007	28.623	0.004244825
0.011	39.71	0.007	25.27	0.004271116
0.011	47.388	0.007	30.156	0.004559798
0.011	31.427	0.007	19.999	0.003383519
0.011	86.724	0.007	55.188	0.006665862
0.011	44.979	0.007	28.623	0.006262169
0.011	39.71	0.007	25.27	0.004271116
0.011	56.21	0.007	35.77	0.005861404
0.011	28.556	0.007	18.172	0.000915296
0.011	35.805	0.007	22.785	0.00302092
0.011	41.349	0.007	26.313	0.005120915
0.014	85.036	0.006	36.444	0.005176896
0.014	72.548	0.006	31.092	0.00415007
0.014	110.376	0.006	47.304	0.005713596
0.014	57.246	0.006	24.534	0.003638422
0.014	50.54	0.006	21.66	0.003660957
0.014	60.312	0.006	25.848	0.003908398
0.014	39.998	0.006	17.142	0.002900159
0.014	110.376	0.006	47.304	0.005713596
0.014	57.246	0.006	24.534	0.005367574
0.014	50.54	0.006	21.66	0.003660957
0.014	71.54	0.006	30.66	0.00502406
0.014	36.344	0.006	15.576	0.00078454
0.014	45.57	0.006	19.53	0.00258936
0.014	52.626	0.006	22.554	0.004389355
0.02	121.48	0.005	30.37	0.00431408
0.02	103.64	0.005	25.91	0.003458392
0.02	157.68	0.005	39.42	0.00476133
0.02	81.78	0.005	20.445	0.003032018
0.02	72.2	0.005	18.05	0.003050797
0.02	86.16	0.005	21.54	0.003256999
0.02	57.14	0.005	14.285	0.002416799
0.02	157.68	0.005	39.42	0.00476133
0.02	81.78	0.005	20.445	0.004472978

0.02	72.2	0.005	18.05	0.003050797
0.02	102.2	0.005	25.55	0.004186717
0.02	51.92	0.005	12.98	0.000653783
0.02	65.1	0.005	16.275	0.0021578
0.02	75.18	0.005	18.795	0.003657796
0.006	36.444	0.014	85.036	0.012079424
0.006	31.092	0.014	72.548	0.009683497
0.006	47.304	0.014	110.376	0.013331723
0.006	24.534	0.014	57.246	0.008489651
0.006	21.66	0.014	50.54	0.008542232
0.006	25.848	0.014	60.312	0.009119596
0.006	17.142	0.014	39.998	0.006767038
0.006	47.304	0.014	110.376	0.013331724
0.006	24.534	0.014	57.246	0.012524338
0.006	21.66	0.014	50.54	0.008542232
0.006	30.66	0.014	71.54	0.011722808
0.006	15.576	0.014	36.344	0.001830593
0.006	19.53	0.014	45.57	0.00604184
0.006	22.554	0.014	52.626	0.010241829
0.0075	45.555	0.0275	167.035	0.023727441
0.0075	38.865	0.0275	142.505	0.019021154
0.0075	59.13	0.0275	216.81	0.026187314
0.0075	30.6675	0.0275	112.4475	0.0166761
0.0075	27.075	0.0275	99.275	0.016779385
0.0075	32.31	0.0275	118.47	0.017913493
0.0075	21.4275	0.0275	78.5675	0.013292397
0.0075	59.13	0.0275	216.81	0.026187314
0.0075	30.6675	0.0275	112.4475	0.024601379
0.0075	27.075	0.0275	99.275	0.016779385
0.0075	38.325	0.0275	140.525	0.023026943
0.0075	19.47	0.0275	71.39	0.003595807
0.0075	24.4125	0.0275	89.5125	0.0118679
0.0075	28.1925	0.0275	103.3725	0.020117879
0.011	66.814	0.039	236.886	0.033649825
0.011	57.002	0.039	202.098	0.026975455
0.011	86.724	0.039	307.476	0.037138372
0.011	44.979	0.039	159.471	0.023649741
0.011	39.71	0.039	140.79	0.023796218
0.011	47.388	0.039	168.012	0.02540459
0.011	31.427	0.039	111.423	0.018851035
0.011	86.724	0.039	307.476	0.037138373
0.011	44.979	0.039	159.471	0.034889229
0.011	39.71	0.039	140.79	0.023796218
0.011	56.21	0.039	199.29	0.032656393
0.011	28.556	0.039	101.244	0.005099508
0.011	35.805	0.039	126.945	0.01683084
0.011	41.349	0.039	146.601	0.02853081
0.018	109.332	0.057	346.218	0.049180514
0.018	93.276	0.057	295.374	0.039425665
0.018	141.912	0.057	449.388	0.054279159
0.018	73.602	0.057	233.073	0.034565006
0.018	64.98	0.057	205.77	0.034779089
0.018	77.544	0.057	245.556	0.037129786
0.018	51.426	0.057	162.849	0.027551513
0.018	141.912	0.057	449.388	0.054279161

0.018	73.602	0.057	233.073	0.05099195
0.018	64.98	0.057	205.77	0.034779089
0.018	91.98	0.057	291.27	0.047728574
0.018	46.728	0.057	147.972	0.007453127
0.018	58.59	0.057	185.535	0.02459892
0.018	67.662	0.057	214.263	0.041698876
0.025	151.85	0.005	30.37	0.00431408
0.025	129.55	0.005	25.91	0.003458392
0.025	197.1	0.005	39.42	0.00476133
0.025	102.225	0.005	20.445	0.003032018
0.025	90.25	0.005	18.05	0.003050797
0.025	107.7	0.005	21.54	0.003256999
0.025	71.425	0.005	14.285	0.002416799
0.025	197.1	0.005	39.42	0.00476133
0.025	102.225	0.005	20.445	0.004472978
0.025	90.25	0.005	18.05	0.003050797
0.025	127.75	0.005	25.55	0.004186717
0.025	64.9	0.005	12.98	0.000653783
0.025	81.375	0.005	16.275	0.0021578
0.025	93.975	0.005	18.795	0.003657796
0.049	297.626	0.009	54.666	0.007765344
0.049	253.918	0.009	46.638	0.006225105
0.049	386.316	0.009	70.956	0.008570394
0.049	200.361	0.009	36.801	0.005457633
0.049	176.89	0.009	32.49	0.005491435
0.049	211.092	0.009	38.772	0.005862598
0.049	139.993	0.009	25.713	0.004350239
0.049	386.316	0.009	70.956	0.008570394
0.049	200.361	0.009	36.801	0.00805136
0.049	176.89	0.009	32.49	0.005491435
0.049	250.39	0.009	45.99	0.007536091
0.049	127.204	0.009	23.364	0.00117681
0.049	159.495	0.009	29.295	0.00388404
0.049	184.191	0.009	33.831	0.006584033
0.075	455.55	0.01	60.74	0.00862816
0.075	388.65	0.01	51.82	0.006916783
0.075	591.3	0.01	78.84	0.00952266
0.075	306.675	0.01	40.89	0.006064036
0.075	270.75	0.01	36.1	0.006101594
0.075	323.1	0.01	43.08	0.006513997
0.075	214.275	0.01	28.57	0.004833599
0.075	591.3	0.01	78.84	0.00952266
0.075	306.675	0.01	40.89	0.008945956
0.075	270.75	0.01	36.1	0.006101594
0.075	383.25	0.01	51.1	0.008373434
0.075	194.7	0.01	25.96	0.001307566
0.075	244.125	0.01	32.55	0.0043156
0.075	281.925	0.01	37.59	0.007315592
0.095	577.03	0.017	103.258	0.014667873
0.095	492.29	0.017	88.094	0.011758532
0.095	748.98	0.017	134.028	0.016188521
0.095	388.455	0.017	69.513	0.010308862
0.095	342.95	0.017	61.37	0.010372711
0.095	409.26	0.017	73.236	0.011073796
0.095	271.415	0.017	48.569	0.008217118

0.095	748.98	0.017	134.028	0.016188522
0.095	388.455	0.017	69.513	0.015208125
0.095	342.95	0.017	61.37	0.010372711
0.095	485.45	0.017	86.87	0.014234838
0.095	246.62	0.017	44.132	0.002222863
0.095	309.225	0.017	55.335	0.00733652
0.095	357.105	0.017	63.903	0.012436507
0.023	139.702	0.007	42.518	0.006039712
0.023	119.186	0.007	36.274	0.004841748
0.023	181.332	0.007	55.188	0.006665862
0.023	94.047	0.007	28.623	0.004244825
0.023	83.03	0.007	25.27	0.004271116
0.023	99.084	0.007	30.156	0.004559798
0.023	65.711	0.007	19.999	0.003383519
0.023	181.332	0.007	55.188	0.006665862
0.023	94.047	0.007	28.623	0.006262169
0.023	83.03	0.007	25.27	0.004271116
0.023	117.53	0.007	35.77	0.005861404
0.023	59.708	0.007	18.172	0.000915296
0.023	74.865	0.007	22.785	0.00302092
0.023	86.457	0.007	26.313	0.005120915
0.044	267.256	0.014	85.036	0.012079424
0.044	228.008	0.014	72.548	0.009683497
0.044	346.896	0.014	110.376	0.013331723
0.044	179.916	0.014	57.246	0.008489651
0.044	158.84	0.014	50.54	0.008542232
0.044	189.552	0.014	60.312	0.009119596
0.044	125.708	0.014	39.998	0.006767038
0.044	346.896	0.014	110.376	0.013331724
0.044	179.916	0.014	57.246	0.012524338
0.044	158.84	0.014	50.54	0.008542232
0.044	224.84	0.014	71.54	0.011722808
0.044	114.224	0.014	36.344	0.001830593
0.044	143.22	0.014	45.57	0.00604184
0.044	165.396	0.014	52.626	0.010241829
0.068	413.032	0.017	103.258	0.014667873
0.068	352.376	0.017	88.094	0.011758532
0.068	536.112	0.017	134.028	0.016188521
0.068	278.052	0.017	69.513	0.010308862
0.068	245.48	0.017	61.37	0.010372711
0.068	292.944	0.017	73.236	0.011073796
0.068	194.276	0.017	48.569	0.008217118
0.068	536.112	0.017	134.028	0.016188522
0.068	278.052	0.017	69.513	0.015208125
0.068	245.48	0.017	61.37	0.010372711
0.068	347.48	0.017	86.87	0.014234838
0.068	176.528	0.017	44.132	0.002222863
0.068	221.34	0.017	55.335	0.00733652
0.068	255.612	0.017	63.903	0.012436507
0.086	522.364	0.026	157.924	0.022433217
0.086	445.652	0.026	134.732	0.017983636
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.015766494
0.086	310.46	0.026	93.86	0.015864146
0.086	370.488	0.026	112.008	0.016936393

0.086	245.702	0.026	74.282	0.012567357
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.023259486
0.086	310.46	0.026	93.86	0.015864146
0.086	439.46	0.026	132.86	0.021770928
0.086	223.256	0.026	67.496	0.003399672
0.086	279.93	0.026	84.63	0.01122056
0.086	323.274	0.026	97.734	0.01902054
0.029	176.146	0.001	6.074	0.000862816
0.029	150.278	0.001	5.182	0.000691678
0.029	228.636	0.001	7.884	0.000952266
0.029	118.581	0.001	4.089	0.000606404
0.029	104.69	0.001	3.61	0.000610159
0.029	124.932	0.001	4.308	0.0006514
0.029	82.853	0.001	2.857	0.00048336
0.029	228.636	0.001	7.884	0.000952266
0.029	118.581	0.001	4.089	0.000894596
0.029	104.69	0.001	3.61	0.000610159
0.029	148.19	0.001	5.11	0.000837343
0.029	75.284	0.001	2.596	0.000130757
0.029	94.395	0.001	3.255	0.00043156
0.029	109.011	0.001	3.759	0.000731559
0.056	340.144	0.002	12.148	0.001725632
0.056	290.192	0.002	10.364	0.001383357
0.056	441.504	0.002	15.768	0.001904532
0.056	228.984	0.002	8.178	0.001212807
0.056	202.16	0.002	7.22	0.001220319
0.056	241.248	0.002	8.616	0.001302799
0.056	159.992	0.002	5.714	0.00096672
0.056	441.504	0.002	15.768	0.001904532
0.056	228.984	0.002	8.178	0.001789191
0.056	202.16	0.002	7.22	0.001220319
0.056	286.16	0.002	10.22	0.001674687
0.056	145.376	0.002	5.192	0.000261513
0.056	182.28	0.002	6.51	0.00086312
0.056	210.504	0.002	7.518	0.001463118
0.085	516.29	0	0	0
0.085	440.47	0	0	0
0.085	670.14	0	0	0
0.085	347.565	0	0	0
0.085	306.85	0	0	0
0.085	366.18	0	0	0
0.085	242.845	0	0	0
0.085	670.14	0	0	0
0.085	347.565	0	0	0
0.085	306.85	0	0	0
0.085	434.35	0	0	0
0.085	220.66	0	0	0
0.085	276.675	0	0	0
0.085	319.515	0	0	0
0.108	655.992	0.004	24.296	0.003451264
0.108	559.656	0.004	20.728	0.002766713
0.108	851.472	0.004	31.536	0.003809064
0.108	441.612	0.004	16.356	0.002425614
0.108	389.88	0.004	14.44	0.002440638

0.108	465.264	0.004	17.232	0.002605599
0.108	308.556	0.004	11.428	0.00193344
0.108	851.472	0.004	31.536	0.003809064
0.108	441.612	0.004	16.356	0.003578382
0.108	389.88	0.004	14.44	0.002440638
0.108	551.88	0.004	20.44	0.003349374
0.108	280.368	0.004	10.384	0.000523026
0.108	351.54	0.004	13.02	0.00172624
0.108	405.972	0.004	15.036	0.002926237
0.137	709.934	0.158	818.756	0.109285176
0.137	560.193	0.158	646.062	0.095811772
0.137	590.196	0.158	680.664	0.10292116
0.137	391.409	0.158	451.406	0.076370861
0.137	560.193	0.158	646.062	0.141346106
0.137	355.652	0.158	410.168	0.020659546
0.137	445.935	0.158	514.29	0.068186481
0.137	514.983	0.158	593.922	0.115554357
0.216	1119.312	0.234	1212.588	0.161852728
0.216	883.224	0.234	956.826	0.141898447
0.216	930.528	0.234	1008.072	0.152427541
0.216	617.112	0.234	668.538	0.113106212
0.216	883.224	0.234	956.826	0.209335372
0.216	560.736	0.234	607.464	0.030597049
0.216	703.08	0.234	761.67	0.100985042
0.216	811.944	0.234	879.606	0.171137465
0.288	1492.416	0.302	1564.964	0.208886855
0.288	1177.632	0.302	1234.878	0.183133893
0.288	1240.704	0.302	1301.016	0.196722724
0.288	822.816	0.302	862.814	0.145974684
0.288	1177.632	0.302	1234.878	0.270167873
0.288	747.648	0.302	783.992	0.0394885
0.288	937.44	0.302	983.01	0.130331122
0.288	1082.592	0.302	1135.218	0.22086972
0.086	522.364	0.026	157.924	0.022433217
0.086	445.652	0.026	134.732	0.017983636
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.015766494
0.086	310.46	0.026	93.86	0.015864146
0.086	370.488	0.026	112.008	0.016936393
0.086	245.702	0.026	74.282	0.012567357
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.023259486
0.086	310.46	0.026	93.86	0.015864146
0.086	439.46	0.026	132.86	0.021770928
0.086	223.256	0.026	67.496	0.003399672
0.086	279.93	0.026	84.63	0.01122056
0.086	323.274	0.026	97.734	0.01902054
0.117	606.294	0.178	922.396	0.123118742
0.117	478.413	0.178	727.842	0.107939844
0.117	504.036	0.178	766.824	0.115949155
0.117	334.269	0.178	508.546	0.086038059
0.117	478.413	0.178	727.842	0.159238018
0.117	303.732	0.178	462.088	0.023274679
0.117	380.835	0.178	579.39	0.076817681
0.117	439.803	0.178	669.102	0.13018149

0.224	1160.768	0.226	1171.132	0.156319302
0.224	915.936	0.226	924.114	0.137047218
0.224	964.992	0.226	973.608	0.147216343
0.224	639.968	0.226	645.682	0.109239333
0.224	915.936	0.226	924.114	0.202178607
0.224	581.504	0.226	586.696	0.029550996
0.224	729.12	0.226	735.63	0.097532562
0.224	842.016	0.226	849.534	0.165286611
0.351	1818.882	0.239	1238.498	0.16531112
0.351	1435.239	0.239	977.271	0.144930465
0.351	1512.108	0.239	1029.612	0.15568454
0.351	1002.807	0.239	682.823	0.115523012
0.351	1435.239	0.239	977.271	0.21380835
0.351	911.196	0.239	620.444	0.031250832
0.351	1142.505	0.239	777.945	0.103142842
0.351	1319.409	0.239	898.401	0.174794248
0.448	2321.536	0.437	2264.534	0.302263429
0.448	1831.872	0.437	1786.893	0.264998381
0.448	1929.984	0.437	1882.596	0.28466169
0.448	1279.936	0.437	1248.509	0.211228268
0.448	1831.872	0.437	1786.893	0.39093828
0.448	1163.008	0.437	1134.452	0.057140643
0.448	1458.24	0.437	1422.435	0.188591723
0.448	1684.032	0.437	1642.683	0.319602873
0.56	2901.92	0.515	2668.73	0.356214338
0.56	2289.84	0.515	2105.835	0.312297864
0.56	2412.48	0.515	2218.62	0.33547087
0.56	1599.92	0.515	1471.355	0.248930339
0.56	2289.84	0.515	2105.835	0.460716738
0.56	1453.76	0.515	1336.94	0.06733966
0.56	1822.8	0.515	1676.325	0.222253404
0.56	2105.04	0.515	1935.885	0.376648694
0.672	3482.304	0.678	3513.396	0.468957905
0.672	2747.808	0.678	2772.342	0.411141653
0.672	2894.976	0.678	2920.824	0.441649029
0.672	1919.904	0.678	1937.046	0.327718
0.672	2747.808	0.678	2772.342	0.606535822
0.672	1744.512	0.678	1760.088	0.088652989
0.672	2187.36	0.678	2206.89	0.292597685
0.672	2526.048	0.678	2548.602	0.495859834
0.024	89.304	0.074	275.354	0.046527766
0.16	766.72	0.05	239.6	0.040486256
0.215	1030.28	0.08	383.36	0.06477801
0.345	1653.24	0.105	503.16	0.085021138
0.375	1797	0.075	359.4	0.060729385
0.2	800	0	0	0
0.2	800	0	0	0
0.025	151.85	0.005	30.37	0.00431408
0.025	129.55	0.005	25.91	0.003458392
0.025	197.1	0.005	39.42	0.00476133
0.025	102.225	0.005	20.445	0.003032018
0.025	90.25	0.005	18.05	0.003050797
0.025	107.7	0.005	21.54	0.003256999
0.025	71.425	0.005	14.285	0.002416799
0.025	197.1	0.005	39.42	0.00476133

0.025	102.225	0.005	20.445	0.004472978
0.025	90.25	0.005	18.05	0.003050797
0.025	127.75	0.005	25.55	0.004186717
0.025	64.9	0.005	12.98	0.000653783
0.025	81.375	0.005	16.275	0.0021578
0.025	93.975	0.005	18.795	0.003657796
0.048	291.552	0.01	60.74	0.00862816
0.048	248.736	0.01	51.82	0.006916783
0.048	378.432	0.01	78.84	0.00952266
0.048	196.272	0.01	40.89	0.006064036
0.048	173.28	0.01	36.1	0.006101594
0.048	206.784	0.01	43.08	0.006513997
0.048	137.136	0.01	28.57	0.004833599
0.048	378.432	0.01	78.84	0.00952266
0.048	196.272	0.01	40.89	0.008945956
0.048	173.28	0.01	36.1	0.006101594
0.048	245.28	0.01	51.1	0.008373434
0.048	124.608	0.01	25.96	0.001307566
0.048	156.24	0.01	32.55	0.0043156
0.048	180.432	0.01	37.59	0.007315592
0.065	394.81	0.02	121.48	0.017256321
0.065	336.83	0.02	103.64	0.013833567
0.065	512.46	0.02	157.68	0.019045319
0.065	265.785	0.02	81.78	0.012128072
0.065	234.65	0.02	72.2	0.012203189
0.065	280.02	0.02	86.16	0.013027995
0.065	185.705	0.02	57.14	0.009667198
0.065	512.46	0.02	157.68	0.01904532
0.065	265.785	0.02	81.78	0.017891912
0.065	234.65	0.02	72.2	0.012203189
0.065	332.15	0.02	102.2	0.016746868
0.065	168.74	0.02	51.92	0.002615132
0.065	211.575	0.02	65.1	0.0086312
0.065	244.335	0.02	75.18	0.014631185
0.086	522.364	0.026	157.924	0.022433217
0.086	445.652	0.026	134.732	0.017983636
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.015766494
0.086	310.46	0.026	93.86	0.015864146
0.086	370.488	0.026	112.008	0.016936393
0.086	245.702	0.026	74.282	0.012567357
0.086	678.024	0.026	204.984	0.024758915
0.086	351.654	0.026	106.314	0.023259486
0.086	310.46	0.026	93.86	0.015864146
0.086	439.46	0.026	132.86	0.021770928
0.086	223.256	0.026	67.496	0.003399672
0.086	279.93	0.026	84.63	0.01122056
0.086	323.274	0.026	97.734	0.01902054
0.023	139.702	0.007	42.518	0.006039712
0.023	119.186	0.007	36.274	0.004841748
0.023	181.332	0.007	55.188	0.006665862
0.023	94.047	0.007	28.623	0.004244825
0.023	83.03	0.007	25.27	0.004271116
0.023	99.084	0.007	30.156	0.004559798
0.023	65.711	0.007	19.999	0.003383519

0.023	181.332	0.007	55.188	0.006665862
0.023	94.047	0.007	28.623	0.006262169
0.023	83.03	0.007	25.27	0.004271116
0.023	117.53	0.007	35.77	0.005861404
0.023	59.708	0.007	18.172	0.000915296
0.023	74.865	0.007	22.785	0.00302092
0.023	86.457	0.007	26.313	0.005120915
0.044	267.256	0.014	85.036	0.012079424
0.044	228.008	0.014	72.548	0.009683497
0.044	346.896	0.014	110.376	0.013331723
0.044	179.916	0.014	57.246	0.008489651
0.044	158.84	0.014	50.54	0.008542232
0.044	189.552	0.014	60.312	0.009119596
0.044	125.708	0.014	39.998	0.006767038
0.044	346.896	0.014	110.376	0.013331724
0.044	179.916	0.014	57.246	0.012524338
0.044	158.84	0.014	50.54	0.008542232
0.044	224.84	0.014	71.54	0.011722808
0.044	114.224	0.014	36.344	0.001830593
0.044	143.22	0.014	45.57	0.00604184
0.044	165.396	0.014	52.626	0.010241829
0.062	376.588	0.023	139.702	0.019844769
0.062	321.284	0.023	119.186	0.015908602
0.062	488.808	0.023	181.332	0.021902117
0.062	253.518	0.023	94.047	0.013947283
0.062	223.82	0.023	83.03	0.014033667
0.062	267.096	0.023	99.084	0.014982194
0.062	177.134	0.023	65.711	0.011117277
0.062	488.808	0.023	181.332	0.021902117
0.062	253.518	0.023	94.047	0.020575699
0.062	223.82	0.023	83.03	0.014033667
0.062	316.82	0.023	117.53	0.019258898
0.062	160.952	0.023	59.708	0.003007402
0.062	201.81	0.023	74.865	0.00992588
0.062	233.058	0.023	86.457	0.016825862
0.082	498.068	0.03	182.22	0.025884481
0.082	424.924	0.03	155.46	0.02075035
0.082	646.488	0.03	236.52	0.028567979
0.082	335.298	0.03	122.67	0.018192109
0.082	296.02	0.03	108.3	0.018304783
0.082	353.256	0.03	129.24	0.019541992
0.082	234.274	0.03	85.71	0.014500796
0.082	646.488	0.03	236.52	0.028567979
0.082	335.298	0.03	122.67	0.026837868
0.082	296.02	0.03	108.3	0.018304783
0.082	419.02	0.03	153.3	0.025120302
0.082	212.872	0.03	77.88	0.003922699
0.082	266.91	0.03	97.65	0.0129468
0.082	308.238	0.03	112.77	0.021946777
0.044	267.256	0.014	85.036	0.012079424
0.044	228.008	0.014	72.548	0.009683497
0.044	346.896	0.014	110.376	0.013331723
0.044	179.916	0.014	57.246	0.008489651
0.044	158.84	0.014	50.54	0.008542232
0.044	189.552	0.014	60.312	0.009119596

0.044	125.708	0.014	39.998	0.006767038
0.044	346.896	0.014	110.376	0.013331724
0.044	179.916	0.014	57.246	0.012524338
0.044	158.84	0.014	50.54	0.008542232
0.044	224.84	0.014	71.54	0.011722808
0.044	114.224	0.014	36.344	0.001830593
0.044	143.22	0.014	45.57	0.00604184
0.044	165.396	0.014	52.626	0.010241829
0.04	242.96	0.018	109.332	0.015530689
0.04	207.28	0.018	93.276	0.01245021
0.04	315.36	0.018	141.912	0.017140787
0.04	163.56	0.018	73.602	0.010915265
0.04	144.4	0.018	64.98	0.01098287
0.04	172.32	0.018	77.544	0.011725195
0.04	114.28	0.018	51.426	0.008700478
0.04	315.36	0.018	141.912	0.017140788
0.04	163.56	0.018	73.602	0.016102721
0.04	144.4	0.018	64.98	0.01098287
0.04	204.4	0.018	91.98	0.015072181
0.04	103.84	0.018	46.728	0.002353619
0.04	130.2	0.018	58.59	0.00776808
0.04	150.36	0.018	67.662	0.013168066
0.055	334.07	0.03	182.22	0.025884481
0.055	285.01	0.03	155.46	0.02075035
0.055	433.62	0.03	236.52	0.028567979
0.055	224.895	0.03	122.67	0.018192109
0.055	198.55	0.03	108.3	0.018304783
0.055	236.94	0.03	129.24	0.019541992
0.055	157.135	0.03	85.71	0.014500796
0.055	433.62	0.03	236.52	0.028567979
0.055	224.895	0.03	122.67	0.026837868
0.055	198.55	0.03	108.3	0.018304783
0.055	281.05	0.03	153.3	0.025120302
0.055	142.78	0.03	77.88	0.003922699
0.055	179.025	0.03	97.65	0.0129468
0.055	206.745	0.03	112.77	0.021946777
0.05	210	0.07	294	0.003241538
0.09	378	0.085	357	0.003936154
0.211	886.2	0.243	1020.6	0.011252769
0.422	1772.4	0.658	2763.6	0.030470462
0.142	680.464	0.153	733.176	0.142687329
0.179	857.768	0.116	555.872	0.108181243
0.236	1130.912	0.059	282.728	0.055023218
0.222	1063.824	0.236	1130.912	0.220092874
0.234	1121.328	0.224	1073.408	0.208901711
0.342	1638.864	0.116	555.872	0.108181243
0.009	54.666	0.003	18.222	0.002588448
0.009	46.638	0.003	15.546	0.002075035
0.009	70.956	0.003	23.652	0.002856798
0.009	36.801	0.003	12.267	0.001819211
0.009	32.49	0.003	10.83	0.001830478
0.009	38.772	0.003	12.924	0.001954199
0.009	25.713	0.003	8.571	0.00145008
0.009	70.956	0.003	23.652	0.002856798
0.009	36.801	0.003	12.267	0.002683787

0.009	32.49	0.003	10.83	0.001830478
0.009	45.99	0.003	15.33	0.00251203
0.009	23.364	0.003	7.788	0.00039227
0.009	29.295	0.003	9.765	0.00129468
0.009	33.831	0.003	11.277	0.002194678
0.011	66.814	0.005	30.37	0.00431408
0.011	57.002	0.005	25.91	0.003458392
0.011	86.724	0.005	39.42	0.00476133
0.011	44.979	0.005	20.445	0.003032018
0.011	39.71	0.005	18.05	0.003050797
0.011	47.388	0.005	21.54	0.003256999
0.011	31.427	0.005	14.285	0.002416799
0.011	86.724	0.005	39.42	0.00476133
0.011	44.979	0.005	20.445	0.004472978
0.011	39.71	0.005	18.05	0.003050797
0.011	56.21	0.005	25.55	0.004186717
0.011	28.556	0.005	12.98	0.000653783
0.011	35.805	0.005	16.275	0.0021578
0.011	41.349	0.005	18.795	0.003657796
0.959142857	4740.084	0.011088357	54.79865896	0.006660145
1.26440678	6248.698305	0.014450363	71.41369492	0.008679511
1.865	9216.83	0.031610169	156.2174576	0.018986429
3.098006645	15310.34884	0.02769168	136.8522801	0.016632816
4.57606325	22614.90458	0.076098613	376.0793445	0.045708105
6.055194805	29924.77273	0.046222861	228.4333796	0.027763442
9.082792208	44887.15909	0.069334292	342.6500694	0.041645162
12.03225806	59463.41935	0.078131546	386.1260997	0.046929172
14.94391026	73852.80449	0.096412324	476.4697064	0.057909395
17.83740701	88152.46546	0.095285294	470.8999223	0.057232452
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.6031746	146298.8889	0.125837087	621.8868816	0.075583175
35.33684211	174634.6737	0.186967419	923.9929825	0.112300686
44.0320042	217606.1647	0.372757707	1842.16859	0.223894336
58.64779874	289837.4214	0.2469381	1220.36809	0.14832166
73.15638075	361538.8337	0.462040299	2283.40316	0.277521307
87.60438413	432940.8664	0.36731398	1815.265687	0.220624599
116.6840459	576652.5547	0.611551603	3022.288023	0.367324237
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
11.95512821	59082.24359	0.077129859	381.1757651	0.046327516
14.86450584	73460.38789	0.079404412	392.416602	0.04769371
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.44736842	145528.8947	0.155806182	769.994152	0.093583905
35.15183246	173720.356	0.185009645	914.3176633	0.111124762
43.98584906	217378.066	0.185203575	915.2760675	0.111241245
73.00365344	360784.0553	0.306094983	1512.721406	0.183853832
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
116.3201663	574854.262	0.485679191	2400.226563	0.291719844
0.666071429	3291.725	0.060551948	299.2477273	0.036370108
0.975872093	4822.759884	0.02323505	114.8276163	0.013955972
1.293641618	6393.176879	0.015130311	74.77399858	0.009087917
1.918285714	9480.168	0.04487218	221.7583158	0.026952165
3.118729097	15412.7592	0.115374949	570.1829992	0.069299165
4.6625	23042.075	0.079025424	390.5436441	0.047466074
6.182320442	30553.02762	0.069076206	341.3746103	0.041490145
9.182166302	45378.26586	0.122157423	603.7019849	0.07337301

12.12351029	59914.38787	0.173193004	855.9198267	0.104027179
15.04032258	74329.27419	0.213221585	1053.741074	0.128070069
17.9135539	88528.78335	0.390699103	1930.834969	0.234670712
23.85927505	117912.5373	0.361504167	1786.553596	0.217134975
29.79233227	147233.7061	0.288312893	1424.842317	0.173173143
35.63694268	176117.7707	0.22844194	1128.960069	0.13721207
44.49893955	219913.7593	0.332791215	1644.654183	0.199888739
59.01898734	291671.8354	0.756653684	3739.382506	0.454478797
73.61842105	363822.2368	0.704108172	3479.702584	0.422917699
88.06400839	435212.3295	1.123026675	5549.997826	0.674538197
116.9278997	577857.6803	0.861573998	4257.898697	0.517498457
0.666071429	3291.725	0.01211039	59.84954545	0.007274022
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
3.098006645	15310.34884	0.02769168	136.8522801	0.016632816
4.566104461	22565.68825	0.045159275	223.1771365	0.027124606
6.068329718	29989.68547	0.08002193	395.4683798	0.048064618
9.004828326	44501.86159	0.147298173	727.9475723	0.088473628
12.0972973	59784.84324	0.105538035	521.5689705	0.06339069
17.93269231	88623.36538	0.115694789	571.7636476	0.069491274
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.6031746	146298.8889	0.125837087	621.8868816	0.075583175
35.33684211	174634.6737	0.186967419	923.9929825	0.112300686
44.17105263	218293.3421	0.233709273	1154.991228	0.140375857
58.64779874	289837.4214	0.2469381	1220.36809	0.14832166
73.23298429	361917.4084	0.385436759	1904.828465	0.231509921
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
0.646820809	3196.588439	0.007565156	37.38699929	0.004543958
0.955865604	4723.887813	0.01436561	70.99484575	0.008628604
1.278857143	6320.112	0.014784476	73.06487861	0.008880193
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
3.101441242	15327.32262	0.024257082	119.8785009	0.014569849
4.541396104	22443.57955	0.034667146	171.3250347	0.020822581
6.055194805	29924.77273	0.046222861	228.4333796	0.027763442
9.024193548	44597.56452	0.058598659	289.5945748	0.035196879
11.95512821	59082.24359	0.077129859	381.1757651	0.046327516
17.83740701	88152.46546	0.095285294	470.8999223	0.057232452
23.65750529	116915.3911	0.125704066	621.2294959	0.075503277
29.44736842	145528.8947	0.155806182	769.994152	0.093583905
58.40292276	288627.2443	0.244875986	1210.177125	0.147083066
73.00365344	360784.0553	0.306094983	1512.721406	0.183853832
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
115.9585492	573067.1503	0.361617097	1787.111695	0.217202806
0.648319815	3203.996524	0.078303562	386.9762035	0.047032492
0.969110855	4789.345843	0.029996288	148.241657	0.018017063
1.287686997	6363.749137	0.021084933	104.2017403	0.012664519
1.88807649	9330.874016	0.052385937	258.8913022	0.031465251
3.108333333	15361.38333	0.052683616	260.3624294	0.031644049
4.606201976	22763.85016	0.08234551	406.9515113	0.049460261
6.121444201	30252.17724	0.081438282	402.4679899	0.04891534
9.122282609	45082.32065	0.100244864	495.4101171	0.060211383
12.01933405	59399.54887	0.183501283	906.8633416	0.110218775
15.08899676	74569.82201	0.164547402	813.1932607	0.098834258
18.08728448	89387.35991	0.216968516	1072.258407	0.130320637
23.88473853	118038.3778	0.336040694	1660.713108	0.201840516
29.69745223	146764.8089	0.383192932	1893.73947	0.230162182

35.52380952	175558.6667	0.341575092	1688.064103	0.205164714
44.12460568	218063.8013	0.707125091	3494.6122	0.42472979
58.7710084	290446.3235	0.687014976	3395.228012	0.412650789
73.30974843	362296.7767	0.308672625	1525.460113	0.185402075
87.60438413	432940.8664	0.73772113	3645.817822	0.443107089
116.6840459	576652.5547	0.611551603	3022.288023	0.367324237
0.55125	2205	0.01125	45	0.005469231
0.8232	3292.8	0.0168	67.2	0.008167385
1.09515	4380.6	0.02235	89.4	0.010865538
1.6464	6585.6	0.0336	134.4	0.016334769
2.74155	10966.2	0.05595	223.8	0.027200308
4.116	16464	0.084	336	0.040836923
5.4831	21932.4	0.1119	447.6	0.054400615
8.22465	32898.6	0.16785	671.4	0.081600923
10.9662	43864.8	0.2238	895.2	0.108801231
13.70775	54831	0.27975	1119	0.136001538
16.4493	65797.2	0.3357	1342.8	0.163201846
21.9324	87729.6	0.4476	1790.4	0.217602462
27.4155	109662	0.5595	2238	0.272003077
32.8986	131594.4	0.6714	2685.6	0.326403692
41.12325	164493	0.83925	3357	0.408004615
54.831	219324	1.119	4476	0.544006154
0.495	1980	0.0675	270	0.032815385
0.7392	2956.8	0.1008	403.2	0.049004308
0.9834	3933.6	0.1341	536.4	0.065193231
1.4784	5913.6	0.2016	806.4	0.098008615
2.4618	9847.2	0.3357	1342.8	0.163201846
3.696	14784	0.504	2016	0.245021538
4.9236	19694.4	0.6714	2685.6	0.326403692
7.3854	29541.6	1.0071	4028.4	0.489605538
9.8472	39388.8	1.3428	5371.2	0.652807385
12.309	49236	1.6785	6714	0.816009231
14.7708	59083.2	2.0142	8056.8	0.979211077
19.6944	78777.6	2.6856	10742.4	1.305614769
24.618	98472	3.357	13428	1.632018462
29.5416	118166.4	4.0284	16113.6	1.958422154
36.927	147708	5.0355	20142	2.448027692
49.236	196944	6.714	26856	3.264036923
0.959142857	4740.084	0.011088357	54.79865896	0.006660145
1.26440678	6248.698305	0.014450363	71.41369492	0.008679511
1.865	9216.83	0.031610169	156.2174576	0.018986429
3.098006645	15310.34884	0.02769168	136.8522801	0.016632816
4.57606325	22614.90458	0.076098613	376.0793445	0.045708105
6.055194805	29924.77273	0.046222861	228.4333796	0.027763442
9.082792208	44887.15909	0.069334292	342.6500694	0.041645162
12.03225806	59463.41935	0.078131546	386.1260997	0.046929172
14.94391026	73852.80449	0.096412324	476.4697064	0.057909395
17.83740701	88152.46546	0.095285294	470.8999223	0.057232452
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.6031746	146298.8889	0.125837087	621.8868816	0.075583175
35.33684211	174634.6737	0.186967419	923.9929825	0.112300686
44.0320042	217606.1647	0.372757707	1842.16859	0.223894336
58.64779874	289837.4214	0.2469381	1220.36809	0.14832166
73.15638075	361538.8337	0.462040299	2283.40316	0.277521307
87.60438413	432940.8664	0.36731398	1815.265687	0.220624599

116.6840459	576652.5547	0.611551603	3022.288023	0.367324237
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
11.95512821	59082.24359	0.077129859	381.1757651	0.046327516
14.86450584	73460.38789	0.079404412	392.416602	0.04769371
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.44736842	145528.8947	0.155806182	769.994152	0.093583905
35.15183246	173720.356	0.185009645	914.3176633	0.111124762
43.98584906	217378.066	0.185203575	915.2760675	0.111241245
73.00365344	360784.0553	0.306094983	1512.721406	0.183853832
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
116.3201663	574854.262	0.485679191	2400.226563	0.291719844
0.666071429	3291.725	0.060551948	299.2477273	0.036370108
0.975872093	4822.759884	0.02323505	114.8276163	0.013955972
1.293641618	6393.176879	0.015130311	74.77399858	0.009087917
1.918285714	9480.168	0.04487218	221.7583158	0.026952165
3.118729097	15412.7592	0.115374949	570.1829992	0.069299165
4.6625	23042.075	0.079025424	390.5436441	0.047466074
6.182320442	30553.02762	0.069076206	341.3746103	0.041490145
9.182166302	45378.26586	0.122157423	603.7019849	0.07337301
12.12351029	59914.38787	0.173193004	855.9198267	0.104027179
15.04032258	74329.27419	0.213221585	1053.741074	0.128070069
17.9135539	88528.78335	0.390699103	1930.834969	0.234670712
23.85927505	117912.5373	0.361504167	1786.553596	0.217134975
29.79233227	147233.7061	0.288312893	1424.842317	0.173173143
35.63694268	176117.7707	0.22844194	1128.960069	0.13721207
44.49893955	219913.7593	0.332791215	1644.654183	0.199888739
59.01898734	291671.8354	0.756653684	3739.382506	0.454478797
73.61842105	363822.2368	0.704108172	3479.702584	0.422917699
88.06400839	435212.3295	1.123026675	5549.997826	0.674538197
116.9278997	577857.6803	0.861573998	4257.898697	0.517498457
0.666071429	3291.725	0.01211039	59.84954545	0.007274022
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
3.098006645	15310.34884	0.02769168	136.8522801	0.016632816
4.566104461	22565.68825	0.045159275	223.1771365	0.027124606
6.068329718	29989.68547	0.08002193	395.4683798	0.048064618
9.004828326	44501.86159	0.147298173	727.9475723	0.088473628
12.0972973	59784.84324	0.105538035	521.5689705	0.06339069
17.93269231	88623.36538	0.115694789	571.7636476	0.069491274
23.68253968	117039.1111	0.100669669	497.5095053	0.06046654
29.6031746	146298.8889	0.125837087	621.8868816	0.075583175
35.33684211	174634.6737	0.186967419	923.9929825	0.112300686
44.17105263	218293.3421	0.233709273	1154.991228	0.140375857
58.64779874	289837.4214	0.2469381	1220.36809	0.14832166
73.23298429	361917.4084	0.385436759	1904.828465	0.231509921
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
0.646820809	3196.588439	0.007565156	37.38699929	0.004543958
0.955865604	4723.887813	0.01436561	70.99484575	0.008628604
1.278857143	6320.112	0.014784476	73.06487861	0.008880193
1.860864745	9196.39357	0.014554249	71.92710055	0.008741909
3.101441242	15327.32262	0.024257082	119.8785009	0.014569849
4.541396104	22443.57955	0.034667146	171.3250347	0.020822581
6.055194805	29924.77273	0.046222861	228.4333796	0.027763442
9.024193548	44597.56452	0.058598659	289.5945748	0.035196879
11.95512821	59082.24359	0.077129859	381.1757651	0.046327516
17.83740701	88152.46546	0.095285294	470.8999223	0.057232452

23.65750529	116915.3911	0.125704066	621.2294959	0.075503277
29.44736842	145528.8947	0.155806182	769.994152	0.093583905
58.40292276	288627.2443	0.244875986	1210.177125	0.147083066
73.00365344	360784.0553	0.306094983	1512.721406	0.183853832
87.24012474	431140.6965	0.364259393	1800.169923	0.218789883
115.9585492	573067.1503	0.361617097	1787.111695	0.217202806
0.648319815	3203.996524	0.078303562	386.9762035	0.047032492
0.969110855	4789.345843	0.029996288	148.241657	0.018017063
1.287686997	6363.749137	0.021084933	104.2017403	0.012664519
1.88807649	9330.874016	0.052385937	258.8913022	0.031465251
3.108333333	15361.38333	0.052683616	260.3624294	0.031644049
4.606201976	22763.85016	0.08234551	406.9515113	0.049460261
6.121444201	30252.17724	0.081438282	402.4679899	0.04891534
9.122282609	45082.32065	0.100244864	495.4101171	0.060211383
12.01933405	59399.54887	0.183501283	906.8633416	0.110218775
15.08899676	74569.82201	0.164547402	813.1932607	0.098834258
18.08728448	89387.35991	0.216968516	1072.258407	0.130320637
23.88473853	118038.3778	0.336040694	1660.713108	0.201840516
29.69745223	146764.8089	0.383192932	1893.73947	0.230162182
35.52380952	175558.6667	0.341575092	1688.064103	0.205164714
44.12460568	218063.8013	0.707125091	3494.6122	0.42472979
58.7710084	290446.3235	0.687014976	3395.228012	0.412650789
73.30974843	362296.7767	0.308672625	1525.460113	0.185402075
87.60438413	432940.8664	0.73772113	3645.817822	0.443107089
116.6840459	576652.5547	0.611551603	3022.288023	0.367324237
0.55125	2205	0.01125	45	0.005469231
0.8232	3292.8	0.0168	67.2	0.008167385
1.09515	4380.6	0.02235	89.4	0.010865538
1.6464	6585.6	0.0336	134.4	0.016334769
2.74155	10966.2	0.05595	223.8	0.027200308
4.116	16464	0.084	336	0.040836923
5.4831	21932.4	0.1119	447.6	0.054400615
8.22465	32898.6	0.16785	671.4	0.081600923
10.9662	43864.8	0.2238	895.2	0.108801231
13.70775	54831	0.27975	1119	0.136001538
16.4493	65797.2	0.3357	1342.8	0.163201846
21.9324	87729.6	0.4476	1790.4	0.217602462
27.4155	109662	0.5595	2238	0.272003077
32.8986	131594.4	0.6714	2685.6	0.326403692
41.12325	164493	0.83925	3357	0.408004615
54.831	219324	1.119	4476	0.544006154
0.495	1980	0.0675	270	0.032815385
0.7392	2956.8	0.1008	403.2	0.049004308
0.9834	3933.6	0.1341	536.4	0.065193231
1.4784	5913.6	0.2016	806.4	0.098008615
2.4618	9847.2	0.3357	1342.8	0.163201846
3.696	14784	0.504	2016	0.245021538
4.9236	19694.4	0.6714	2685.6	0.326403692
7.3854	29541.6	1.0071	4028.4	0.489605538
9.8472	39388.8	1.3428	5371.2	0.652807385
12.309	49236	1.6785	6714	0.816009231
14.7708	59083.2	2.0142	8056.8	0.979211077
19.6944	78777.6	2.6856	10742.4	1.305614769
24.618	98472	3.357	13428	1.632018462
29.5416	118166.4	4.0284	16113.6	1.958422154

36.927	147708	5.0355	20142	2.448027692
49.236	196944	6.714	26856	3.264036923
-	469	-	274	0.030421026
-	295	-	60	0.007046154
-	442	-	111	0.014344615
-	-	0.05	170	2.504E-05
-	-	0.076	69	0.038781538
-	-	0.076	239	0.067165128
-	469	-	274	0.030421026
-	295	-	60	0.007046154
-	442	-	111	0.014344615
-	-	0.05	170	2.504E-05
-	-	0.076	69	0.038781538
-	-	0.076	239	0.067165128
0.96	576	0.117199282	70.31956912	0.039487143
0.96	576	0.117199282	70.31956912	0.039487143
1	600	0.077199282	46.31956912	0.02601022
1	600	0.077199282	46.31956912	0.02601022
0.983606557	590.1639344	0.087822014	52.69320843	0.029589263
1	600	0.090909091	54.54545455	0.030629371
0.983606557	590.1639344	0.107302534	64.38152012	0.0361527
1	600	0.111111111	66.66666667	0.037435897
1.111111111	666.6666667	0.088888889	53.33333333	0.029948718
1.132075472	679.245283	0.092414324	55.44859453	0.031136518
1.153846154	692.3076923	0.083267248	49.96034893	0.028054657
1.176470588	705.8823529	0.086687307	52.0123839	0.029206954
0.96	576	0.117199282	70.31956912	0.039487143
0.96	576	0.117199282	70.31956912	0.039487143
1	600	0.077199282	46.31956912	0.02601022
1	600	0.077199282	46.31956912	0.02601022
0.983606557	590.1639344	0.087822014	52.69320843	0.029589263
1	600	0.090909091	54.54545455	0.030629371
0.983606557	590.1639344	0.107302534	64.38152012	0.0361527
1	600	0.111111111	66.66666667	0.037435897
1.111111111	666.6666667	0.088888889	53.33333333	0.029948718
1.132075472	679.245283	0.092414324	55.44859453	0.031136518
1.153846154	692.3076923	0.083267248	49.96034893	0.028054657
1.176470588	705.8823529	0.086687307	52.0123839	0.029206954
0.9024	541.44	0.174799282	104.8795691	0.058893912
0.94	564	0.137199282	82.31956912	0.046225604
0.924590164	554.7540984	0.146838407	88.1030445	0.049473248
0.94	564	0.150909091	90.54545455	0.050844755
0.269891667	2364.251	0.188441667	1650.749	0.204438915
0.636358333	5574.499	0.228225	1999.251	0.247599547
1.001041667	8769.125	0.485416667	4252.25	0.526624808
1.259583333	11033.95	0.7675	6723.3	0.832654846
0.147916667	1295.75	0.062916667	551.15	0.068257808
0.328333333	2876.2	0.099166667	868.7	0.107585154
0.5411375	4740.3645	0.218029167	1909.9355	0.236538166
0.654925	5737.143	0.392575	3438.957	0.425901598
0.098391667	861.911	0.082275	720.729	0.089259515
0.167416667	1466.57	0.07775	681.09	0.084350377
0.263375	2307.165	0.085791667	751.535	0.093074719
0.369583333	3237.55	0.104583333	916.15	0.113461654
0.089570833	784.6405	0.0300125	262.9095	0.03256033

0.12435	1089.306	0.048983333	429.094	0.053141642
0.166125	1455.255	0.093875	822.345	0.101844265
0.2265	1984.14	0.137666667	1205.96	0.149353508
0.049005618	429.2892106	0.107812359	944.4362633	0.116964799
0.049005618	429.2892106	0.016335206	143.0964035	0.017721939
0.490056176	4292.892106	1.078123588	9444.362633	1.169647988
0.490056176	4292.892106	0.163352059	1430.964035	0.177219392
0.980112353	8585.784212	0.326704118	2861.928071	0.354438784
0.062085426	513.6327304	0.136587938	1129.992007	0.139945164
0.062085426	513.6327304	0.020695142	171.2109101	0.021203813
0.620854261	5136.327304	1.365879375	11299.92007	1.399451639
0.620854261	5136.327304	0.20695142	1712.109101	0.212038127
1.241708523	10272.65461	0.413902841	3424.218203	0.424076254
-	-	0.1	900	0.111461538
0.311	1821.838	0.103	603.374	0.074725549
0.339	1985.862	0.075	439.35	0.054411808
0.062085426	513.6327304	0.136587938	1129.992007	0.139945164
0.062085426	513.6327304	0.020695142	171.2109101	0.021203813
0.620854261	5136.327304	1.365879375	11299.92007	1.399451639
0.620854261	5136.327304	0.20695142	1712.109101	0.212038127
1.241708523	10272.65461	0.413902841	3424.218203	0.424076254
-	-	-	593	0.332992308
0.521567417	4568.93057	0.056361072	493.7229927	0.057221229
1.187367488	10401.3392	0.137133806	1201.292143	0.139226679
0.932110247	8165.28576	0.100120144	877.0524593	0.101648131
2.121419271	18583.63281	0.214739583	1881.11875	0.21801684
0.873978566	7656.052235	0.127715447	1118.787315	0.129664581
1.576367986	13808.98356	0.160651597	1407.307992	0.163103388
0.273461458	2395.522375	0.021966177	192.4237113	0.022301415
0.495029167	4336.4555	0.038559444	337.7807333	0.039147921
-	-	-	1432	0.165965128
-	-	-	1801	0.208731282
-	-	-	1633	0.189260513
-	-	-	1931	0.223797949
-	-	-	1526	0.176859487
0.0079	69.204	0.0347	303.972	0.038113412
0.03	117.33	0.018	70.398	0.012148168
0.03	117.33	0.018	70.398	0.012148168
0.03	117.33	0.018	70.398	0.012148168
0.03	117.33	0.052	203.372	0.035094707
0.058	226.838	0.024	93.864	0.016197557
0.058	226.838	0.024	93.864	0.016197557
0.058	226.838	0.024	93.864	0.016197557
0.058	226.838	0.086	336.346	0.058041246
0.112	438.032	0.032	125.152	0.021596743
0.112	438.032	0.032	125.152	0.021596743
0.112	438.032	0.032	125.152	0.021596743
0.043	168.173	0.028	109.508	0.01889715
0.084	328.524	0.058	226.838	0.039144096
0.15	580.5	0.025	96.75	0.016695577
0.36	1393.2	0.04	154.8	0.026712923
0.142	549.54	0.153	592.11	0.102176931
0.179	692.73	0.116	448.92	0.077467477
0.234	905.58	0.061	236.07	0.040737208
0.222	859.14	0.236	913.32	0.157606246

0.234	905.58	0.224	866.88	0.149592369
0.342	1323.54	0.116	448.92	0.077467477
0.142	549.54	0.153	592.11	0.102176931
0.179	692.73	0.116	448.92	0.077467477
0.234	905.58	0.061	236.07	0.040737208
0.222	859.14	0.236	913.32	0.157606246
0.234	905.58	0.224	866.88	0.149592369
0.342	1323.54	0.116	448.92	0.077467477
0.009	35.199	0.003	11.733	0.002024695
0.012	46.932	0.007	27.377	0.004724287
0.02	78.22	0.007	27.377	0.004724287
0.02	78.22	0.007	27.377	0.004724287
0.006	23.466	0.0215	84.0865	0.014510311
0.01	39.11	0.0325	127.1075	0.021934192
0.01	39.11	0.0525	205.3275	0.035432156
0.01	39.11	0.0325	127.1075	0.021934192
0.016	62.576	0.0715	279.6365	0.048255222
0.016	62.576	0.0515	201.4165	0.034757258
0.022	86.042	0.0655	256.1705	0.044205832
0.006	23.466	0.0215	84.0865	0.014510311
0.0085	33.2435	0.034	132.974	0.022946539
0.006	23.466	0.0215	84.0865	0.014510311
0.0095	37.1545	0.0455	177.9505	0.030707868
0.096	94.608	0.024	23.652	0.001485831
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-	268	-	27.1	0.001153487
0.12	42.924	0	64.386	0.004044762
0.12	35.7627	0	41.9823	0.00263735
-	2423.19	-	63.15	9.30162E-06
0.015	19.155	0.016	20.432	0.001283549
0.012	20.832	0.016	27.776	0.001744903
0.0067	8.1271	0.0134	16.2542	0.001021097
0.0048	8.208	0.0042	7.182	0.000451177
-	68.9	-	70.2	0.00441
-	68.9	-	35.4	0.002223846
0.016	21.28	0.027	35.91	0.002255885
0.019	14.40886824	0.0189	14.33303209	0.000900408
0.005	5.819454746	0.0065	7.56529117	0.000475255
0.007	8.470307383	0.0063	7.623276645	0.000478898
0.007	7.271266245	0.0063	6.54413962	0.000411106
0.026	31.24257611	0.0323	38.81289263	0.002438246
0.026	37.011	0.0323	45.97905	0.002888428
0.022	35.332	0.0269	43.2014	0.002713934
0.019	30.514	0.0189	30.3534	0.001906816
-	0	-	217.4	0.148500923
-	505	-	303	0.055083846
-	465	-	172.8	0
-	1106	-	849	0.154343846
-	32.58	-	21.79	0.000625764
-	18.48	-	13.66	0.000392287
-	3822.573515	-	38.28460469	0.000441745
-	3832.144667	-	28.71345263	0.000331309
-	3841.715819	-	19.14230056	0.000220873
-	3836.7	-	24.2	0.000279231
-	3842.8	-	18.1	0.000208846

-	3848.8	-	12.1	0.000139615
-	-	-	4.7	0.00042541
-	532	-	270	0.031223077
-	734	-	68	0.00786359
0.009	8.8695	0.009	8.8695	0.000557187
0.011	10.8405	0.009	8.8695	0.000557187
0.013	12.8115	0.014	13.797	0.000866735
0.015	14.7825	0.013	12.8115	0.000804825
0.018	17.739	0.017	16.7535	0.001052463
0.02	19.71	0.017	16.7535	0.001052463
0.023	22.6665	0.024	23.652	0.001485831
0.025	24.6375	0.023	22.6665	0.001423921
0.027	26.6085	0.022	21.681	0.001362012
-	405.62	-	896.528	0.121835856
-	41	-	1142.5	0.155262821
-	459.8	-	754.2	0.097465846
-	155.05	-	970.328	0.125396234
0.0888	358.0416	0.15545	626.7744	0.191085836
0	0	0.24425	984.816	0.300242622
0.7428	230.71368	0.453	140.7018	0.079081627
0	0	1.1958	371.41548	0.208754547
0.087	350.784	0.15725	634.032	0.193298474
0	0	0.24425	984.816	0.300242622
-	32515	-	958	0.269222564
-	21964	-	1218	0.342289231
-	31121	-	-329	-0.018812051
-	20188	-	-138	-0.007890769
-	32582	-	891	0.250393846
-	21874	-	1308	0.367581538
-	31289	-	-497	-0.028418205
-	20223	-	-173	-0.009892051
-	21874	-	81	0.022763077
-	31289	-	65	1.66667E-05
-	20223	-	21	5.38462E-06
-	32582	-	114	0.032036923
1.793103448	896.5517241	0.206896552	103.4482759	0.058143236
1.793103448	690.3448276	0.206896552	309.6551724	0.174042087
1.733333333	866.6666667	0.266666667	133.3333333	0.074940171
1.733333333	667.3333333	0.266666667	332.6666667	0.186975726
-	2006	-	2821	0.792773333
-	2215	-	2925	0.822
-	612	-	1534	0.087713333
-	439	-	1569	0.089714615
-	2006	-	11378	3.197509744
-	2215	-	11482	3.22673641
-	612	-	10091	0.576998205
-	439	-	10126	0.578999487
-	1773	-	3054	0.858252308
-	1959	-	3181	0.893942564
-	480	-	1666	0.095261026
-	308	-	1700	0.097205128
-	1773	-	11611	3.262988718
-	1959	-	11738	3.298678974
-	480	-	10223	0.584545897
-	308	-	10257	0.58649

-	1773	-	373	0.104822564
-	1959	-	267	0.075033846
-	480	-	324	8.30769E-05
-	308	-	207	5.30769E-05
-	1773	-	8930	2.509558974
-	1959	-	8824	2.479770256
-	480	-	8881	0.002277179
-	308	-	8764	0.002247179
-	-	-	38.702	5.70057E-06
-	-	-	1321.4	0.000194634
-	-	-	631.376	0.081593206
-	-	-	631.376	0.081593206
-	-	-	673.2688	0.087007045
-	-	-	673.2688	0.087007045
-	-	-	673.2688	0.087007045
-	-	-	80.2	0.005038205
-	-	-	39.054	0.002453392
-	-	-	45.847	0.002880132
-	-	-	62.827	0.003946824
-	-	-	37.357	0.002346786
-	-	-	62.846	0
-	-	-	101	0.006344872
-	-	-	89.147	0
-	-	-	122.618	0.011098501
-	-	-	70.0674	0.006341998
-	-	-	330.4378	0.029908857
-	-	-	330.4378	0.029908857
-	-	-	652.5	0
-	-	-	40.3607	0.001159077
-	-	-	459.8	0.140180051
-	-	-	629	0.191764359
-	-	-	886	0.27011641
-	-	-	115.675	0.065015282
-	-	-	146.016	0.08206848
-	-	-	184.89	0.103917662
-	-	-	33.3067	0.003014683
-	-	-	33.3067	0.003014683
-	-	-	236.653	0.027366796
0.096	94.608	0.024	23.652	0.001485831
0.12	42.924	0	64.386	0.004044762
0.12	35.7627	0	41.9823	0.001786939
0.18	153.294525	0	3.90915	0.000245575
-	261.2	-	159.38	0.006783867
-	-	-	32	0.002010256
-	-	-	125	0.007852564
-	-	-	251	0.015767949
-	-	-	32	0.002010256
-	-	-	32	0.002010256
-	-	-	430.33	0.027033551
		500.00	4380000.00	0.52857
		500.00	4380000.00	0.52857
		500.00	3000000.00	0.36203
		500.00	3000000.00	0.36203
		500.00	2000000.00	0.24136
		500.00	2000000.00	0.24136

1	894	0.16	147.30	0.835285
1	894	0.23	208.90	0.766400
1	1942	0.56	1089.52	0.438890
59	902073	59.00	902073.00	59.000000
441	834967	441.00	834967.00	441.000000
35	152318	35	152318	35
2006	13523896	2006.00	13523896.00	2006.000000
0	926	0.00	926.00	0.000000
38	162019	38.00	162019.00	38.000000
203	934004	203	934004	203
1	2000	0.00	1011105.00	61.000000
1	0	48.00	315411.00	48.000000
1	4940	89.00	1051099.00	89.000000
1	5740	0	0	0
0.96	576	0	0	0
1	8760	0.00	1597.00	0.000000
331	4780890	331.00	4780890.00	331.000000
1	0	55.00	157855.00	55.000000
0.006	23.466	35	161071	35
-	2025	-	2025	0.097465846

0 0 0.13 233 0.130276
0 0 0.748668 1339 0.748668

130	1124174	130.00	1124174.00	130.000000
1	1000	0	1000	0
1	1000	0	1000	0
3	10827	3.00	10827.00	3.000000
36	219928	36.00	219928.00	36.000000
1	1	70	74739	70
1	8760	4.24	44006.12	4.23529
1	1000	52	441961	52
96	1423383	96.00	1423383.00	96.000000
454	6996736	454.00	6996736.00	454.000000
394	5638884	394.00	5638884.00	394.000000
-	0	-	217.4	0.148500923

0.64 109.98 0.39 281 0.39

185	1654892	185.00	1654892.00	185.000000
1092.6	5008155.6	1092.60	5008155.60	1092.600000
32	157963	32.00	157963.00	32.000000
1.132075472	679.245283	0.092414324	55.44859453	0.031136518
403	1799960	403	1799960	403
47	259670	47.00	259670.00	47.000000
0	786718	0.00	786718.00	0.000000
6165	54001559.44	6165.00	54001559.44	6165.000000
537	4672873	537.00	4672873.00	537.000000
516	4493455	516.00	4493455.00	516.000000
253	2203475.082	253.00	2203475.08	253.000000
1498	13035825.87	1498.00	13035825.87	1498.000000
36	312379.2373	36.00	312379.24	36.000000
46	401287.1741	46.00	401287.17	46.000000
0.1	0.1	0.10	0.10	0.100000
0.1	0.1	0.10	0.10	0.100000
898	7926112	898.00	7926112.00	898.000000
116	607475.6056	116.00	607475.61	116.000000
1.348079342	18567.18388	1.35	18567.18	1.34808
14.10347744	57881.92078	14.10	57881.92	14.10348

96	435166	96.00	435166.00	96.00000
0.1	0.1	0.10	0.10	0.10000
2117	15036461	2117.00	15036461.00	2117.00000
207	1023927.423	207.00	1023927.42	207.00000
83	985744	83.00	985744.00	83.000000

EFFECTIVE USEFUL LIFE (YEAR)	END USE LOAD PROFILE	INCREMENTAL LIFE CYCLE COST (\$)
11	PSP-Business-Commercial-Lighting_Interior_General	4986.07
16	PSP-Business-Commercial-Miscellaneous_Equipment	76614.92
9	PSP-Business-Commercial-Lighting_Interior_General	16101.4
16	PSP-Business-Commercial-Miscellaneous_Equipment	29017.77
10	PSP-Business-Commercial-Lighting_Interior_General	50111.14
18	PSP-Consumer-Residential-AC_Central	475
18	PSP-Consumer-Residential-AC_Central	475
19	PSP-Consumer-Residential-Furnace_ECM_3	959
3	PSP-Consumer-Residential-AC_Room	116
4	PSP-Consumer-Residential-Dehumidifiers	116
4	PSP-Consumer-Residential-Freezers	109
5	PSP-Consumer-Residential-Refrigerators	106
10	PSP-Consumer-Residential-Lighting	5
10	PSP-Consumer-Residential-Lighting	5
13	PSP-Consumer-Residential-Furnace_ECM_3	540
9	PSP-Consumer-Residential-Furnace_ECM_3	484
14	PSP-Business-Commercial-Lighting_Interior_General	90639
9	PSP-Business-Commercial-Lighting_Small Business	383.4
9	PSP-Business-Commercial-Lighting_Small Business	2875.5
9	PSP-Business-Commercial-Lighting_Small Business	1917
4	PSP-Business-Commercial-Miscellaneous_Equipment	57985.78
10	PSP-Business-Commercial-Single_Creep_Pad	-21.00217629
10	PSP-Business-Commercial-Double_Creep_Pad	-162.1739175
10	PSP-Business-Commercial-HT_Cutout_Thermostat	113.72
15	PSP-Business-Commercial-Creep_Heat_Controller	400
10	PSP-Business-Commercial-HE_Exhaust_Fans_≤24"	285
10	PSP-Business-Commercial-HE_Exhaust_Fans_≤24"	285
10	PSP-Business-Commercial-HE_Exhaust_Fans_>24"	285
10	PSP-Business-Commercial-HE_Exhaust_Fans_>24"	285
15	PSP-Business-Commercial-HVLS	4900
15	PSP-Business-Commercial-HVLS	2900
15	PSP-Business-Commercial-HVLS	2900
10	PSP-Business-Commercial-Livestock_Waterer	320
8	PSP-Business-Commercial-Timer_Photocell	250
15	PSP-Business-Commercial-D&N_Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_Exhaust_Fans_(non-da	0

15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(dairy)	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(dairy)	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
10	PSP-Business-Commercial-Single_Creep_Pad	-21.00217629
10	PSP-Business-Commercial-Double_Creep_Pad	-162.1739175
10	PSP-Business-Commercial-Livestock_Waterer	320
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(dairy)	0
15	PSP-Business-Commercial-D&N_ Exhaust_Fans_(non-da	0
10	PSP-Business-Commercial-Refrigerated_Display_Case_F	16
6	PSP-Business-Food_Retail-Lighting_Interior_General	17.88
7	PSP-Business-Hospital-Lighting_Interior_General	17.88
5	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	17.88
9	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	17.88
11	PSP-Business-Large_Office-Lighting_Interior_General	17.88
9	PSP-Business-Nursing_Home-Lighting_Interior_General	17.88
13	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	17.88
5	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	17.88
9	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	17.88
11	PSP-Business-Other_Office-Lighting_Interior_General	17.88
7	PSP-Business-Restaurant-Lighting_Interior_General	17.88
15	PSP-Business-Schools-Lighting_Interior_General	17.88
12	PSP-Business-University_Colleges-Lighting_Interior_Gen	17.88
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	17.88
6	PSP-Business-Food_Retail-Lighting_Interior_General	22.88
8	PSP-Business-Hospital-Lighting_Interior_General	22.88
5	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	22.88
10	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	22.88
11	PSP-Business-Large_Office-Lighting_Interior_General	22.88
9	PSP-Business-Nursing_Home-Lighting_Interior_General	22.88
14	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	22.88
5	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	22.88
10	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	22.88
11	PSP-Business-Other_Office-Lighting_Interior_General	22.88
8	PSP-Business-Restaurant-Lighting_Interior_General	22.88
15	PSP-Business-Schools-Lighting_Interior_General	22.88
12	PSP-Business-University_Colleges-Lighting_Interior_Gen	22.88
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	22.88
7	PSP-Business-Food_Retail-Lighting_Interior_General	47.88
8	PSP-Business-Hospital-Lighting_Interior_General	47.88
5	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	47.88
10	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	47.88
11	PSP-Business-Large_Office-Lighting_Interior_General	47.88
10	PSP-Business-Nursing_Home-Lighting_Interior_General	47.88
14	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	47.88
5	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	47.88
10	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	47.88

11	PSP-Business-Other_Office-Lighting_Interior_General	47.88
8	PSP-Business-Restaurant-Lighting_Interior_General	47.88
16	PSP-Business-Schools-Lighting_Interior_General	47.88
13	PSP-Business-University_Colleges-Lighting_Interior_Gen	47.88
11	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	47.88
5	PSP-Business-Food_Retail-Lighting_Interior_General	-69.73
5	PSP-Business-Hospital-Lighting_Interior_General	-69.73
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-69.73
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-69.73
8	PSP-Business-Large_Office-Lighting_Interior_General	-69.73
6	PSP-Business-Nursing_Home-Lighting_Interior_General	-69.73
10	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-69.73
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-69.73
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-69.73
8	PSP-Business-Other_Office-Lighting_Interior_General	-69.73
5	PSP-Business-Restaurant-Lighting_Interior_General	-69.73
11	PSP-Business-Schools-Lighting_Interior_General	-69.73
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-69.73
7	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	-69.73
5	PSP-Business-Food_Retail-Lighting_Interior_General	-69.73
5	PSP-Business-Hospital-Lighting_Interior_General	-69.73
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-69.73
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-69.73
8	PSP-Business-Large_Office-Lighting_Interior_General	-69.73
6	PSP-Business-Nursing_Home-Lighting_Interior_General	-69.73
10	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-69.73
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-69.73
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-69.73
8	PSP-Business-Other_Office-Lighting_Interior_General	-69.73
5	PSP-Business-Restaurant-Lighting_Interior_General	-69.73
11	PSP-Business-Schools-Lighting_Interior_General	-69.73
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-69.73
7	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	-69.73
5	PSP-Business-Food_Retail-Lighting_Interior_General	-22.55
6	PSP-Business-Hospital-Lighting_Interior_General	-22.55
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-22.55
8	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-22.55
9	PSP-Business-Large_Office-Lighting_Interior_General	-22.55
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-22.55
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-22.55
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-22.55
8	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-22.55
9	PSP-Business-Other_Office-Lighting_Interior_General	-22.55
6	PSP-Business-Restaurant-Lighting_Interior_General	-22.55
12	PSP-Business-Schools-Lighting_Interior_General	-22.55
10	PSP-Business-University_Colleges-Lighting_Interior_Gen	-22.55
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	-22.55
5	PSP-Business-Food_Retail-Lighting_Interior_General	-22.55
6	PSP-Business-Hospital-Lighting_Interior_General	-22.55
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-22.55
8	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-22.55
9	PSP-Business-Large_Office-Lighting_Interior_General	-22.55
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-22.55
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-22.55
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-22.55

8	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-22.55
9	PSP-Business-Other_Office-Lighting_Interior_General	-22.55
6	PSP-Business-Restaurant-Lighting_Interior_General	-22.55
12	PSP-Business-Schools-Lighting_Interior_General	-22.55
10	PSP-Business-University_Colleges-Lighting_Interior_Gen	-22.55
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-22.55
8	PSP-Business-Food_Retail-Lighting_Interior_General	-1.182860497
10	PSP-Business-Hospital-Lighting_Interior_General	-1.00764333
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-1.037145153
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-0.852696755
14	PSP-Business-Large_Office-Lighting_Interior_General	-0.715734553
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-0.852696755
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.806335737
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-1.037145153
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-0.852696755
14	PSP-Business-Other_Office-Lighting_Interior_General	-0.715734553
10	PSP-Business-Restaurant-Lighting_Interior_General	-1.00764333
19	PSP-Business-Schools-Lighting_Interior_General	-0.687496206
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-0.831154754
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-0.975042168
8	PSP-Business-Food_Retail-Lighting_Interior_General	-4.365720994
10	PSP-Business-Hospital-Lighting_Interior_General	-4.01528666
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-4.074290306
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-3.70539351
14	PSP-Business-Large_Office-Lighting_Interior_General	-3.431469106
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-3.70539351
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-3.612671475
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-4.074290306
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-3.70539351
14	PSP-Business-Other_Office-Lighting_Interior_General	-3.431469106
10	PSP-Business-Restaurant-Lighting_Interior_General	-4.01528666
19	PSP-Business-Schools-Lighting_Interior_General	-3.374992412
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-3.662309507
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-3.950084335
8	PSP-Business-Food_Retail-Lighting_Interior_General	-4.048581491
10	PSP-Business-Hospital-Lighting_Interior_General	-3.52292999
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-3.611435459
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-3.058090266
14	PSP-Business-Large_Office-Lighting_Interior_General	-2.64720366
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-3.058090266
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-2.919007212
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-3.611435459
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-3.058090266
14	PSP-Business-Other_Office-Lighting_Interior_General	-2.64720366
10	PSP-Business-Restaurant-Lighting_Interior_General	-3.52292999
19	PSP-Business-Schools-Lighting_Interior_General	-2.562488618
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.993464261
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-3.425126503
8	PSP-Business-Food_Retail-Lighting_Interior_General	-3.731441987
10	PSP-Business-Hospital-Lighting_Interior_General	-3.03057332
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-3.148580613
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-2.410787021
14	PSP-Business-Large_Office-Lighting_Interior_General	-1.862938213
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.410787021
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-2.22534295

6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighting	-3.148580613
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-2.410787021
14	PSP-Business-Other_Office-Lighting_Interior_General	-1.862938213
10	PSP-Business-Restaurant-Lighting_Interior_General	-3.03057332
19	PSP-Business-Schools-Lighting_Interior_General	-1.749984824
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.324619014
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-2.90016867
8	PSP-Business-Food_Retail-Lighting_Interior_General	-0.30923141
10	PSP-Business-Hospital-Lighting_Interior_General	-0.15516306
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-0.141098322
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-0.020168198
14	PSP-Business-Large_Office-Lighting_Interior_General	0.097971632
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-0.020168198
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.042941975
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighting	-0.141098322
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-0.020168198
14	PSP-Business-Other_Office-Lighting_Interior_General	0.097971632
10	PSP-Business-Restaurant-Lighting_Interior_General	-0.15516306
19	PSP-Business-Schools-Lighting_Interior_General	0.060988476
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-0.035205522
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-0.161335982
8	PSP-Business-Food_Retail-Lighting_Interior_General	-2.618462821
10	PSP-Business-Hospital-Lighting_Interior_General	-2.31032612
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-2.282196643
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-2.040336397
14	PSP-Business-Large_Office-Lighting_Interior_General	-1.804056735
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.040336397
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-2.08588395
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighting	-2.282196643
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-2.040336397
14	PSP-Business-Other_Office-Lighting_Interior_General	-1.804056735
10	PSP-Business-Restaurant-Lighting_Interior_General	-2.31032612
19	PSP-Business-Schools-Lighting_Interior_General	-1.878023048
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.070411044
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-2.322671964
8	PSP-Business-Food_Retail-Lighting_Interior_General	-1.427694231
10	PSP-Business-Hospital-Lighting_Interior_General	-0.965489179
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-0.923294965
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-0.560504595
14	PSP-Business-Large_Office-Lighting_Interior_General	-0.206085103
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-0.560504595
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.628825924
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighting	-0.923294965
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-0.560504595
14	PSP-Business-Other_Office-Lighting_Interior_General	-0.206085103
10	PSP-Business-Restaurant-Lighting_Interior_General	-0.965489179
19	PSP-Business-Schools-Lighting_Interior_General	-0.317034573
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-0.605616565
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-0.984007946
8	PSP-Business-Food_Retail-Lighting_Interior_General	-0.236925642
10	PSP-Business-Hospital-Lighting_Interior_General	0.379347761
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	0.435606714
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	0.919327207
14	PSP-Business-Large_Office-Lighting_Interior_General	1.39188653
12	PSP-Business-Nursing_Home-Lighting_Interior_General	0.919327207

18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	0.828232101
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	0.435606714
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	0.919327207
14	PSP-Business-Other_Office-Lighting_Interior_General	1.39188653
10	PSP-Business-Restaurant-Lighting_Interior_General	0.379347761
19	PSP-Business-Schools-Lighting_Interior_General	1.243953903
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	0.859177913
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_0	0.354656072
8	PSP-Business-Food_Retail-Lighting_Interior_General	4.503954046
10	PSP-Business-Hospital-Lighting_Interior_General	4.816638519
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	4.660878263
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	4.813567523
14	PSP-Business-Large_Office-Lighting_Interior_General	4.94111854
12	PSP-Business-Nursing_Home-Lighting_Interior_General	4.953229517
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	4.935986524
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	4.660878263
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	4.813567523
14	PSP-Business-Other_Office-Lighting_Interior_General	4.94111854
10	PSP-Business-Restaurant-Lighting_Interior_General	4.816638519
19	PSP-Business-Schools-Lighting_Interior_General	5.041109701
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	4.816819862
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_0	4.813567523
8	PSP-Business-Food_Retail-Lighting_Interior_General	-3.492091907
10	PSP-Business-Hospital-Lighting_Interior_General	-2.866722963
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-3.178243475
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-2.872864954
14	PSP-Business-Large_Office-Lighting_Interior_General	-2.617762921
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.593540966
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-2.628026952
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-3.178243475
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-2.872864954
14	PSP-Business-Other_Office-Lighting_Interior_General	-2.617762921
10	PSP-Business-Restaurant-Lighting_Interior_General	-2.866722963
19	PSP-Business-Schools-Lighting_Interior_General	-2.417780598
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.866360275
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_0	-2.872864954
8	PSP-Business-Food_Retail-Lighting_Interior_General	-2.738137861
10	PSP-Business-Hospital-Lighting_Interior_General	-1.800084444
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-2.267365212
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-1.80929743
14	PSP-Business-Large_Office-Lighting_Interior_General	-1.426644381
12	PSP-Business-Nursing_Home-Lighting_Interior_General	-1.390311449
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-1.442040427
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-2.267365212
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-1.80929743
14	PSP-Business-Other_Office-Lighting_Interior_General	-1.426644381
10	PSP-Business-Restaurant-Lighting_Interior_General	-1.800084444
19	PSP-Business-Schools-Lighting_Interior_General	-1.126670896
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	-1.799540413
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_0	-1.80929743
8	PSP-Business-Food_Retail-Lighting_Interior_General	0.515816185
10	PSP-Business-Hospital-Lighting_Interior_General	1.766554074
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	1.143513051
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	1.754270093
14	PSP-Business-Large_Office-Lighting_Interior_General	2.264474159

12	PSP-Business-Nursing_Home-Lighting_Interior_General	2.312918068
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	2.243946097
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	1.143513051
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	1.754270093
14	PSP-Business-Other_Office-Lighting_Interior_General	2.264474159
10	PSP-Business-Restaurant-Lighting_Interior_General	1.766554074
19	PSP-Business-Schools-Lighting_Interior_General	2.664438805
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	1.767279449
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	1.754270093
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	-5.886583374
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-22.8064349
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	-15.29021583
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	3.855579967
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-22.8064349
19	PSP-Business-Schools-Lighting_Interior_High_Bay	3.413078446
15	PSP-Business-University_Colleges-Lighting_Interior_High	-7.524824892
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	0.175637181
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	63.86760332
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	52.46444629
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	63.73877489
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	53.79384491
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	52.46444629
19	PSP-Business-Schools-Lighting_Interior_High_Bay	54.68348224
15	PSP-Business-University_Colleges-Lighting_Interior_High	52.79512946
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	52.46444629
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	-31.77316675
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-65.6128698
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	-50.58043166
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-12.28884007
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-65.6128698
19	PSP-Business-Schools-Lighting_Interior_High_Bay	-13.17384311
15	PSP-Business-University_Colleges-Lighting_Interior_High	-35.04964978
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	-19.64872564
8	PSP-Business-Food_Retail-Lighting_Interior_General	92.27228991
10	PSP-Business-Hospital-Lighting_Interior_General	92.20975302
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	92.27228991
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	92.15282647
14	PSP-Business-Large_Office-Lighting_Interior_General	92.10096495
12	PSP-Business-Nursing_Home-Lighting_Interior_General	92.15282647
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	92.05367904
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	92.27228991
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	92.15282647
14	PSP-Business-Other_Office-Lighting_Interior_General	92.10096495
10	PSP-Business-Restaurant-Lighting_Interior_General	92.20975302
19	PSP-Business-Schools-Lighting_Interior_General	92.01052933
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	92.10096495
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	92.15282647
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	-11.22918243
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-19.97766384
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	-19.97766384
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	6.789559636
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-19.97766384
19	PSP-Business-Schools-Lighting_Interior_High_Bay	6.185463675
15	PSP-Business-University_Colleges-Lighting_Interior_High	-4.397894053
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	3.004408239

10	PSP-Business-Hospital-Lighting_Interior_High_Bay	39.32197586
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	39.7773882
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	39.7773882
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	40.57056769
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	39.7773882
19	PSP-Business-Schools-Lighting_Interior_High_Bay	40.91576538
15	PSP-Business-University_Colleges-Lighting_Interior_High	40.19228038
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	39.7773882
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	-55.52182262
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-73.81575703
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	-73.81575703
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-21.66937418
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-73.81575703
19	PSP-Business-Schools-Lighting_Interior_High_Bay	-23.48166206
15	PSP-Business-University_Colleges-Lighting_Interior_High	-43.38227878
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	-27.85161287
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	-141.751005
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-168.7934209
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	-168.7934209
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-89.87981455
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-168.7934209
19	PSP-Business-Schools-Lighting_Interior_High_Bay	-92.29619839
15	PSP-Business-University_Colleges-Lighting_Interior_High	-122.7801728
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	-99.84720463
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	123.6526976
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	139.3954526
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	139.3954526
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	139.2449774
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	139.3954526
19	PSP-Business-Schools-Lighting_Interior_High_Bay	148.5557747
15	PSP-Business-University_Colleges-Lighting_Interior_High	150.8215633
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	139.3954526
10	PSP-Business-Hospital-Lighting_Interior_High_Bay	67.96592759
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	69.3321646
12	PSP-Business-Nursing_Home-Lighting_Interior_High_Bay	69.3321646
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	71.71170306
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	69.3321646
19	PSP-Business-Schools-Lighting_Interior_High_Bay	72.74729614
15	PSP-Business-University_Colleges-Lighting_Interior_High	70.57684115
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_H	69.3321646
4	PSP-Business-Commercial-Lighting_Interior_Architectura	40.26
2	PSP-Business-Commercial-Lighting_Interior_High_Bay	115.5
2	PSP-Business-Commercial-Lighting_Interior_High_Bay	141
4	PSP-Business-Commercial-Lighting_Interior_High_Bay	139
4	PSP-Business-Commercial-Lighting_Interior_High_Bay	141
10	PSP-Business-Commercial-Lighting_Interior_Office	100
10	PSP-Business-Commercial-Lighting_Interior_Office	100
5	PSP-Business-Food_Retail-Lighting_Interior_General	-1.349048208
6	PSP-Business-Hospital-Lighting_Interior_General	-1.230234158
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-1.349048208
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-1.118145432
8	PSP-Business-Large_Office-Lighting_Interior_General	-1.012401351
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-1.118145432
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.912642784
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-1.349048208

7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-1.118145432
8	PSP-Business-Other_Office-Lighting_Interior_General	-1.012401351
6	PSP-Business-Restaurant-Lighting_Interior_General	-1.230234158
12	PSP-Business-Schools-Lighting_Interior_General	-0.818530928
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-1.012401351
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-1.118145432
5	PSP-Business-Food_Retail-Lighting_Interior_General	-2.698096415
6	PSP-Business-Hospital-Lighting_Interior_General	-2.460468316
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-2.698096415
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-2.236290864
8	PSP-Business-Large_Office-Lighting_Interior_General	-2.024802702
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.236290864
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-1.825285568
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-2.698096415
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-2.236290864
8	PSP-Business-Other_Office-Lighting_Interior_General	-2.024802702
6	PSP-Business-Restaurant-Lighting_Interior_General	-2.460468316
12	PSP-Business-Schools-Lighting_Interior_General	-1.637061857
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.024802702
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-2.236290864
5	PSP-Business-Food_Retail-Lighting_Interior_General	-4.047144623
6	PSP-Business-Hospital-Lighting_Interior_General	-3.690702474
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-4.047144623
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-3.354436296
8	PSP-Business-Large_Office-Lighting_Interior_General	-3.037204053
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-3.354436296
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-2.737928352
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-4.047144623
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-3.354436296
8	PSP-Business-Other_Office-Lighting_Interior_General	-3.037204053
6	PSP-Business-Restaurant-Lighting_Interior_General	-3.690702474
12	PSP-Business-Schools-Lighting_Interior_General	-2.455592785
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-3.037204053
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-3.354436296
5	PSP-Business-Food_Retail-Lighting_Interior_General	-5.39619283
6	PSP-Business-Hospital-Lighting_Interior_General	-4.920936632
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-5.39619283
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-4.472581729
8	PSP-Business-Large_Office-Lighting_Interior_General	-4.049605404
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-4.472581729
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-3.650571136
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-5.39619283
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_G	-4.472581729
8	PSP-Business-Other_Office-Lighting_Interior_General	-4.049605404
6	PSP-Business-Restaurant-Lighting_Interior_General	-4.920936632
12	PSP-Business-Schools-Lighting_Interior_General	-3.274123713
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-4.049605404
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-4.472581729
5	PSP-Business-Food_Retail-Lighting_Interior_General	-0.849048208
6	PSP-Business-Hospital-Lighting_Interior_General	-0.730234158
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-0.849048208
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_G	-0.618145432
8	PSP-Business-Large_Office-Lighting_Interior_General	-0.512401351
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-0.618145432
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.412642784

4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighting	-0.849048208
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-0.618145432
8	PSP-Business-Other_Office-Lighting_Interior_General	-0.512401351
6	PSP-Business-Restaurant-Lighting_Interior_General	-0.730234158
12	PSP-Business-Schools-Lighting_Interior_General	-0.318530928
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-0.512401351
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-0.618145432
5	PSP-Business-Food_Retail-Lighting_Interior_General	-1.698096415
6	PSP-Business-Hospital-Lighting_Interior_General	-1.460468316
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-1.698096415
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-1.236290864
8	PSP-Business-Large_Office-Lighting_Interior_General	-1.024802702
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-1.236290864
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.825285568
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-1.698096415
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-1.236290864
8	PSP-Business-Other_Office-Lighting_Interior_General	-1.024802702
6	PSP-Business-Restaurant-Lighting_Interior_General	-1.460468316
12	PSP-Business-Schools-Lighting_Interior_General	-0.637061857
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-1.024802702
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-1.236290864
5	PSP-Business-Food_Retail-Lighting_Interior_General	-2.547144623
6	PSP-Business-Hospital-Lighting_Interior_General	-2.190702474
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-2.547144623
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-1.854436296
8	PSP-Business-Large_Office-Lighting_Interior_General	-1.537204053
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-1.854436296
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-1.237928352
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-2.547144623
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-1.854436296
8	PSP-Business-Other_Office-Lighting_Interior_General	-1.537204053
6	PSP-Business-Restaurant-Lighting_Interior_General	-2.190702474
12	PSP-Business-Schools-Lighting_Interior_General	-0.955592785
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-1.537204053
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-1.854436296
5	PSP-Business-Food_Retail-Lighting_Interior_General	-3.39619283
6	PSP-Business-Hospital-Lighting_Interior_General	-2.920936632
4	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-3.39619283
7	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	-2.472581729
8	PSP-Business-Large_Office-Lighting_Interior_General	-2.049605404
7	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.472581729
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-1.650571136
4	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-3.39619283
7	PSP-Business-Other_Non_Food_Retail-Lighting_Interior	-2.472581729
8	PSP-Business-Other_Office-Lighting_Interior_General	-2.049605404
6	PSP-Business-Restaurant-Lighting_Interior_General	-2.920936632
12	PSP-Business-Schools-Lighting_Interior_General	-1.274123713
9	PSP-Business-University_Colleges-Lighting_Interior_Gen	-2.049605404
8	PSP-Business-Warehouse_Wholesale-Lighting_Interior_G	-2.472581729
8	PSP-Business-Food_Retail-Lighting_Interior_General	158.7771009
10	PSP-Business-Hospital-Lighting_Interior_General	159.4024698
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	158.7771009
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior	159.9717353
14	PSP-Business-Large_Office-Lighting_Interior_General	160.4903505
12	PSP-Business-Nursing_Home-Lighting_Interior_General	159.9717353

18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	160.9632096
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	158.7771009
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	159.9717353
14	PSP-Business-Other_Office-Lighting_Interior_General	160.4903505
10	PSP-Business-Restaurant-Lighting_Interior_General	159.4024698
19	PSP-Business-Schools-Lighting_Interior_General	161.3947067
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	160.4903505
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	159.9717353
8	PSP-Business-Food_Retail-Lighting_Interior_General	171.2771009
10	PSP-Business-Hospital-Lighting_Interior_General	171.9024698
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	171.2771009
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	172.4717353
14	PSP-Business-Large_Office-Lighting_Interior_General	172.9903505
12	PSP-Business-Nursing_Home-Lighting_Interior_General	172.4717353
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	173.4632096
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	171.2771009
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	172.4717353
14	PSP-Business-Other_Office-Lighting_Interior_General	172.9903505
10	PSP-Business-Restaurant-Lighting_Interior_General	171.9024698
19	PSP-Business-Schools-Lighting_Interior_General	173.8947067
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	172.9903505
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	172.4717353
8	PSP-Business-Food_Retail-Lighting_Interior_General	189.4156513
10	PSP-Business-Hospital-Lighting_Interior_General	190.3537047
6	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	189.4156513
12	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	191.2076029
14	PSP-Business-Large_Office-Lighting_Interior_General	191.9855257
12	PSP-Business-Nursing_Home-Lighting_Interior_General	191.2076029
18	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	192.6948144
6	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	189.4156513
12	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	191.2076029
14	PSP-Business-Other_Office-Lighting_Interior_General	191.9855257
10	PSP-Business-Restaurant-Lighting_Interior_General	190.3537047
19	PSP-Business-Schools-Lighting_Interior_General	193.3420601
15	PSP-Business-University_Colleges-Lighting_Interior_Gen	191.9855257
13	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	191.2076029
12	PSP-Business-Commercial-Lighting_Exterior	23.29203095
12	PSP-Business-Commercial-Lighting_Exterior	237.9745503
12	PSP-Business-Commercial-Lighting_Exterior	6.828534815
12	PSP-Business-Commercial-Lighting_Exterior	126.7649105
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	119.5660915
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	133.5660915
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	158.5660915
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	165
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	169
10	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	199
11	PSP-Business-Food_Retail-Lighting_Interior_General	-10.19501885
11	PSP-Business-Hospital-Lighting_Interior_General	1.064699041
11	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-6.869719977
11	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-2.072375364
11	PSP-Business-Large_Office-Lighting_Interior_General	-4.864360417
11	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.072375364
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.957328377
11	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-6.869719977
11	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-2.072375364

11	PSP-Business-Other_Office-Lighting_Interior_General	-4.864360417
11	PSP-Business-Restaurant-Lighting_Interior_General	1.064699041
11	PSP-Business-Schools-Lighting_Interior_General	-0.957328377
11	PSP-Business-University_Colleges-Lighting_Interior_Gen	-4.864360417
11	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	-2.072375364
11	PSP-Business-Food_Retail-Lighting_Interior_General	-10.75872798
11	PSP-Business-Hospital-Lighting_Interior_General	1.26007201
11	PSP-Business-Large_Hotel (Corridor/Lobby)-Lighting_Inte	-7.20925166
11	PSP-Business-Large_Non_Food_Retail-Lighting_Interior_	-2.088490558
11	PSP-Business-Large_Office-Lighting_Interior_General	-5.068699321
11	PSP-Business-Nursing_Home-Lighting_Interior_General	-2.088490558
11	PSP-Business-Other_Commercial_Buildings-Lighting_Inte	-0.898271863
11	PSP-Business-Other_Hotel_Motel (Corridor/Lobby)-Lighti	-7.20925166
11	PSP-Business-Other_Non_Food_Retail-Lighting_Interior_	-2.088490558
11	PSP-Business-Other_Office-Lighting_Interior_General	-5.068699321
11	PSP-Business-Restaurant-Lighting_Interior_General	1.26007201
11	PSP-Business-Schools-Lighting_Interior_General	-0.898271863
11	PSP-Business-University_Colleges-Lighting_Interior_Gen	-5.068699321
11	PSP-Business-Warehouse_Wholesale-Lighting_Interior_C	-2.088490558
15	PSP-Business-Commercial-Electric_Auxiliary	99
15	PSP-Business-Commercial-Electric_Auxiliary	133
15	PSP-Business-Commercial-Electric_Auxiliary	149
15	PSP-Business-Commercial-Electric_Auxiliary	221
15	PSP-Business-Commercial-Electric_Auxiliary	449
15	PSP-Business-Commercial-Electric_Auxiliary	522
15	PSP-Business-Commercial-Electric_Auxiliary	1044
15	PSP-Business-Commercial-Electric_Auxiliary	1211
15	PSP-Business-Commercial-Electric_Auxiliary	1670
15	PSP-Business-Commercial-Electric_Auxiliary	1567
15	PSP-Business-Commercial-Electric_Auxiliary	1962
15	PSP-Business-Commercial-Electric_Auxiliary	1365
15	PSP-Business-Commercial-Electric_Auxiliary	2514
15	PSP-Business-Commercial-Electric_Auxiliary	3133
15	PSP-Business-Commercial-Electric_Auxiliary	3296
15	PSP-Business-Commercial-Electric_Auxiliary	3741
15	PSP-Business-Commercial-Electric_Auxiliary	2607
15	PSP-Business-Commercial-Electric_Auxiliary	4213
15	PSP-Business-Commercial-Electric_Auxiliary	200
15	PSP-Business-Commercial-Electric_Auxiliary	444
15	PSP-Business-Commercial-Electric_Auxiliary	847
15	PSP-Business-Commercial-Electric_Auxiliary	1267
15	PSP-Business-Commercial-Electric_Auxiliary	1918
15	PSP-Business-Commercial-Electric_Auxiliary	2437
15	PSP-Business-Commercial-Electric_Auxiliary	2569
15	PSP-Business-Commercial-Electric_Auxiliary	3089
15	PSP-Business-Commercial-Electric_Auxiliary	4321
15	PSP-Business-Commercial-Electric_Auxiliary	3118
15	PSP-Business-Commercial-Electric_Auxiliary	11
15	PSP-Business-Commercial-Electric_Auxiliary	123
15	PSP-Business-Commercial-Electric_Auxiliary	143
15	PSP-Business-Commercial-Electric_Auxiliary	64
15	PSP-Business-Commercial-Electric_Auxiliary	130
15	PSP-Business-Commercial-Electric_Auxiliary	48
15	PSP-Business-Commercial-Electric_Auxiliary	145
15	PSP-Business-Commercial-Electric_Auxiliary	330

15	PSP-Business-Commercial-Electric_Auxiliary	466
15	PSP-Business-Commercial-Electric_Auxiliary	767
15	PSP-Business-Commercial-Electric_Auxiliary	1126
15	PSP-Business-Commercial-Electric_Auxiliary	1580
15	PSP-Business-Commercial-Electric_Auxiliary	1913
15	PSP-Business-Commercial-Electric_Auxiliary	1755
15	PSP-Business-Commercial-Electric_Auxiliary	2498
15	PSP-Business-Commercial-Electric_Auxiliary	3878
15	PSP-Business-Commercial-Electric_Auxiliary	4237
15	PSP-Business-Commercial-Electric_Auxiliary	5852
15	PSP-Business-Commercial-Electric_Auxiliary	5715
15	PSP-Business-Commercial-Electric_Auxiliary	192
15	PSP-Business-Commercial-Electric_Auxiliary	149
15	PSP-Business-Commercial-Electric_Auxiliary	221
15	PSP-Business-Commercial-Electric_Auxiliary	449
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15	PSP-Business-Commercial-Electric_Auxiliary	183
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15	PSP-Business-Commercial-Electric_Auxiliary	221
15	PSP-Business-Commercial-Electric_Auxiliary	325
15	PSP-Business-Commercial-Electric_Auxiliary	352
15	PSP-Business-Commercial-Electric_Auxiliary	433
15	PSP-Business-Commercial-Electric_Auxiliary	444
15	PSP-Business-Commercial-Electric_Auxiliary	976
15	PSP-Business-Commercial-Electric_Auxiliary	1267
15	PSP-Business-Commercial-Electric_Auxiliary	1918
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15	PSP-Business-Commercial-Electric_Auxiliary	5715
6	PSP-Business-Commercial-Electric_Auxiliary	120
6	PSP-Business-Commercial-Electric_Auxiliary	120
6	PSP-Business-Commercial-Electric_Auxiliary	120
6	PSP-Business-Commercial-Electric_Auxiliary	126
6	PSP-Business-Commercial-Electric_Auxiliary	200
6	PSP-Business-Commercial-Electric_Auxiliary	210
6	PSP-Business-Commercial-Electric_Auxiliary	240
6	PSP-Business-Commercial-Electric_Auxiliary	375
6	PSP-Business-Commercial-Electric_Auxiliary	380
6	PSP-Business-Commercial-Electric_Auxiliary	300
6	PSP-Business-Commercial-Electric_Auxiliary	420
6	PSP-Business-Commercial-Electric_Auxiliary	560
6	PSP-Business-Commercial-Electric_Auxiliary	600
6	PSP-Business-Commercial-Electric_Auxiliary	660
6	PSP-Business-Commercial-Electric_Auxiliary	900
6	PSP-Business-Commercial-Electric_Auxiliary	1100
15	PSP-Business-Commercial-Electric_Auxiliary	240
15	PSP-Business-Commercial-Electric_Auxiliary	290
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15	PSP-Business-Commercial-Electric_Auxiliary	350
15	PSP-Business-Commercial-Electric_Auxiliary	400
15	PSP-Business-Commercial-Electric_Auxiliary	550
15	PSP-Business-Commercial-Electric_Auxiliary	700
15	PSP-Business-Commercial-Electric_Auxiliary	890
15	PSP-Business-Commercial-Electric_Auxiliary	1100
15	PSP-Business-Commercial-Electric_Auxiliary	1300
15	PSP-Business-Commercial-Electric_Auxiliary	1500
15	PSP-Business-Commercial-Electric_Auxiliary	2200
15	PSP-Business-Commercial-Electric_Auxiliary	2600
15	PSP-Business-Commercial-Electric_Auxiliary	2800
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15	PSP-Business-Commercial-Electric_Auxiliary	133
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15	PSP-Business-Commercial-Electric_Auxiliary	449
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15	PSP-Business-Commercial-Electric_Auxiliary	64
15	PSP-Business-Commercial-Electric_Auxiliary	130
15	PSP-Business-Commercial-Electric_Auxiliary	48
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15	PSP-Business-Commercial-Electric_Auxiliary	330
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15	PSP-Business-Commercial-Electric_Auxiliary	5715
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6	PSP-Business-Commercial-Electric_Auxiliary	120
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6	PSP-Business-Commercial-Electric_Auxiliary	200
6	PSP-Business-Commercial-Electric_Auxiliary	210
6	PSP-Business-Commercial-Electric_Auxiliary	240
6	PSP-Business-Commercial-Electric_Auxiliary	375
6	PSP-Business-Commercial-Electric_Auxiliary	380
6	PSP-Business-Commercial-Electric_Auxiliary	300
6	PSP-Business-Commercial-Electric_Auxiliary	420
6	PSP-Business-Commercial-Electric_Auxiliary	560
6	PSP-Business-Commercial-Electric_Auxiliary	600
6	PSP-Business-Commercial-Electric_Auxiliary	660
6	PSP-Business-Commercial-Electric_Auxiliary	900
6	PSP-Business-Commercial-Electric_Auxiliary	1100
15	PSP-Business-Commercial-Electric_Auxiliary	240
15	PSP-Business-Commercial-Electric_Auxiliary	290
15	PSP-Business-Commercial-Electric_Auxiliary	300
15	PSP-Business-Commercial-Electric_Auxiliary	350
15	PSP-Business-Commercial-Electric_Auxiliary	400
15	PSP-Business-Commercial-Electric_Auxiliary	550
15	PSP-Business-Commercial-Electric_Auxiliary	700
15	PSP-Business-Commercial-Electric_Auxiliary	890
15	PSP-Business-Commercial-Electric_Auxiliary	1100
15	PSP-Business-Commercial-Electric_Auxiliary	1300
15	PSP-Business-Commercial-Electric_Auxiliary	1500
15	PSP-Business-Commercial-Electric_Auxiliary	2200
15	PSP-Business-Commercial-Electric_Auxiliary	2600
15	PSP-Business-Commercial-Electric_Auxiliary	2800

15	PSP-Business-Commercial-Electric_Auxiliary	3200
15	PSP-Business-Commercial-Electric_Auxiliary	3500
11	PSP-Consumer-Residential-Clothes_Washers	150
11	PSP-Consumer-Residential-Dishwashers	12
13	PSP-Consumer-Residential-Refrigerators	30
15	PSP-Consumer-Residential-Space_Heating_Room	25
15	PSP-Consumer-Residential-AC_Room	25
15	PSP-Business-Commercial-Space_Cooling_&_Heating	25
11	PSP-Consumer-Residential-Clothes_Washers	150
11	PSP-Consumer-Residential-Dishwashers	12
13	PSP-Consumer-Residential-Refrigerators	30
15	PSP-Consumer-Residential-Space_Heating_Room	25
15	PSP-Consumer-Residential-AC_Room	25
15	PSP-Business-Commercial-Space_Cooling_&_Heating	25
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1690
15	PSP-Business-Commercial-Cooling_DX	1690
15	PSP-Business-Commercial-Cooling_DX	1890
15	PSP-Business-Commercial-Cooling_DX	1890
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15	PSP-Business-Commercial-Cooling_DX	2100
15	PSP-Business-Commercial-Cooling_DX	1920
15	PSP-Business-Commercial-Cooling_DX	1920
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1620
15	PSP-Business-Commercial-Cooling_DX	1690
15	PSP-Business-Commercial-Cooling_DX	1690
15	PSP-Business-Commercial-Cooling_DX	1890
15	PSP-Business-Commercial-Cooling_DX	1890
15	PSP-Business-Commercial-Cooling_DX	2100
15	PSP-Business-Commercial-Cooling_DX	2100
15	PSP-Business-Commercial-Cooling_DX	1920
15	PSP-Business-Commercial-Cooling_DX	1920
15	PSP-Business-Commercial-Cooling_DX	2080
15	PSP-Business-Commercial-Cooling_DX	2080
15	PSP-Business-Commercial-Cooling_DX	2190
15	PSP-Business-Commercial-Cooling_DX	2190
12	PSP-Business-Commercial-Refrigeration	142
12	PSP-Business-Commercial-Refrigeration	166
12	PSP-Business-Commercial-Refrigeration	166
12	PSP-Business-Commercial-Refrigeration	407
12	PSP-Business-Commercial-Refrigeration	142
12	PSP-Business-Commercial-Refrigeration	166
12	PSP-Business-Commercial-Refrigeration	166
12	PSP-Business-Commercial-Refrigeration	407
12	PSP-Business-Commercial-Refrigeration	143
12	PSP-Business-Commercial-Refrigeration	164
12	PSP-Business-Commercial-Refrigeration	164
12	PSP-Business-Commercial-Refrigeration	249
12	PSP-Business-Commercial-Refrigeration	143

12	PSP-Business-Commercial-Refrigeration	164
12	PSP-Business-Commercial-Refrigeration	164
12	PSP-Business-Commercial-Refrigeration	249
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	475
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	475
15	PSP-Business-Commercial-Refrigeration	60
13	PSP-Business-Commercial-Refrigeration	200
13	PSP-Business-Commercial-Refrigeration	200
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	135
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	388
15	PSP-Business-Commercial-Refrigeration	475
15	PSP-Business-Commercial-Cooling_DX	475
8	PSP-Business-Commercial-Other_Plug_Loads	559
8	PSP-Business-Commercial-Other_Plug_Loads	1485
8	PSP-Business-Commercial-Other_Plug_Loads	1485
8	PSP-Business-Commercial-Other_Plug_Loads	2194
8	PSP-Business-Commercial-Other_Plug_Loads	1485
8	PSP-Business-Commercial-Other_Plug_Loads	1821
8	PSP-Business-Commercial-Other_Plug_Loads	296
8	PSP-Business-Commercial-Other_Plug_Loads	312
5	PSP-Business-Commercial-Other_Plug_Loads	190
5	PSP-Business-Commercial-Other_Plug_Loads	190
5	PSP-Business-Commercial-Other_Plug_Loads	190
5	PSP-Business-Commercial-Other_Plug_Loads	190
5	PSP-Business-Commercial-Other_Plug_Loads	190
6	PSP-Business-Commercial-Computer_Equipment	15
13	PSP-Business-Commercial-Lighting_Small Business	-0.762401351
13	PSP-Business-Commercial-Lighting_Small Business	-0.512401351
13	PSP-Business-Commercial-Lighting_Small Business	-1.012401351
13	PSP-Business-Commercial-Lighting_Small Business	-0.762401351
13	PSP-Business-Commercial-Lighting_Small Business	-1.524802702
13	PSP-Business-Commercial-Lighting_Small Business	-1.024802702
13	PSP-Business-Commercial-Lighting_Small Business	-2.024802702
13	PSP-Business-Commercial-Lighting_Small Business	-1.524802702
13	PSP-Business-Commercial-Lighting_Small Business	-3.049605404
13	PSP-Business-Commercial-Lighting_Small Business	-2.049605404
13	PSP-Business-Commercial-Lighting_Small Business	-4.049605404
13	PSP-Business-Commercial-Lighting_Small Business	-16.30417135
13	PSP-Business-Commercial-Lighting_Small Business	-14.91905297
3	PSP-Business-Commercial-Lighting_Small Business	0
5	PSP-Business-Commercial-Lighting_Small Business	0
13	PSP-Business-Commercial-Lighting_Small Business	-132.6719513
13	PSP-Business-Commercial-Lighting_Small Business	-16.27818177
13	PSP-Business-Commercial-Lighting_Small Business	-4.278181774
13	PSP-Business-Commercial-Lighting_Small Business	-82.14227729

13	PSP-Business-Commercial-Lighting_Small Business	33
13	PSP-Business-Commercial-Lighting_Small Business	45
13	PSP-Business-Commercial-Lighting_Small Business	-128.2469513
13	PSP-Business-Commercial-Lighting_Small Business	-0.978181774
13	PSP-Business-Commercial-Lighting_Small Business	12.82181823
13	PSP-Business-Commercial-Lighting_Small Business	-76.81727729
13	PSP-Business-Commercial-Lighting_Small Business	48.3
13	PSP-Business-Commercial-Lighting_Small Business	62.1
7	PSP-Business-Commercial-Lighting_Small Business	2.065679043
7	PSP-Business-Commercial-Lighting_Small Business	2.32853381
7	PSP-Business-Commercial-Lighting_Small Business	2.32853381
7	PSP-Business-Commercial-Lighting_Small Business	3.714246116
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
7	PSP-Business-Commercial-Lighting_Small Business	-50.12
7	PSP-Business-Commercial-Lighting_Small Business	-50.12
7	PSP-Business-Commercial-Lighting_Small Business	-50.12
7	PSP-Business-Commercial-Lighting_Small Business	-50.12
10	PSP-Consumer-Residential-Lighting	28.84
10	PSP-Consumer-Residential-Holiday_Lighting_Timer	24.12
10	PSP-Consumer-Residential-Outdoor_Lighting_Timer	24.12
10	PSP-Consumer-Residential-Lighting	25.37
10	PSP-Consumer-Residential-Lighting	30.97
11	PSP-Consumer-Residential-Space_Heating_Room	29.27
20	PSP-Consumer-Residential-Lighting	1.46
17	PSP-Consumer-Residential-Lighting	-22.79
21	PSP-Consumer-Residential-Lighting	-1.64
13	PSP-Consumer-Residential-Lighting	0.66
10	PSP-Consumer-Residential-Lighting	45
10	PSP-Consumer-Residential-Lighting	45
16	PSP-Consumer-Residential-Lighting	15.37
15	PSP-Consumer-Residential-Lighting	-5.37
7	PSP-Consumer-Residential-Lighting	-4.95
7	PSP-Consumer-Residential-Lighting	-1.67
8	PSP-Consumer-Residential-Lighting	-1.67
7	PSP-Consumer-Residential-Lighting	-7.98
7	PSP-Consumer-Residential-Lighting	-6.98
6	PSP-Consumer-Residential-Lighting	-10.58
6	PSP-Consumer-Residential-Lighting	-7.72
10	PSP-Consumer-Residential-Clothesline	76.75
10	PSP-Consumer-Residential-Swimming_Pool_And_Spa_H	24.12
10	PSP-Consumer-Residential-Car_Block_Heater	24.12
10	PSP-Consumer-Residential-Swimming_Pool_Pumps	24.12
10	PSP-Consumer-Residential-Power_Bar	44.99
10	PSP-Consumer-Residential-Power_Bar	24.99
13	PSP-Consumer-Residential-Weatherstripping	17.96
13	PSP-Consumer-Residential-Weatherstripping	17.96
13	PSP-Consumer-Residential-Weatherstripping	17.96
13	PSP-Consumer-Residential-Weatherstripping	11.5
13	PSP-Consumer-Residential-Weatherstripping	11.5

13	PSP-Consumer-Residential-Weatherstripping	11.5
15	PSP-Consumer-Residential-Domestic_Hot_Water	0.7
7	PSP-Consumer-Residential-Water_Heater_Blanket	44.49
7	PSP-Consumer-Residential-Water_Heater_Blanket	44.49
11	PSP-Consumer-Residential-Lighting	-3.81
11	PSP-Consumer-Residential-Lighting	-2.39
11	PSP-Consumer-Residential-Lighting	-1.38
11	PSP-Consumer-Residential-Lighting	-0.49
11	PSP-Consumer-Residential-Lighting	-0.09
11	PSP-Consumer-Residential-Lighting	-0.77
11	PSP-Consumer-Residential-Lighting	-1.12
11	PSP-Consumer-Residential-Lighting	-2.04
11	PSP-Consumer-Residential-Lighting	-1.44
11	PSP-Consumer-Residential-Freezers	33
11	PSP-Consumer-Residential-Freezers	0
14	PSP-Consumer-Residential-Refrigerators	30
14	PSP-Consumer-Residential-Refrigerators	0
12	PSP-Consumer-Residential-Dehumidifiers	40
12	PSP-Consumer-Residential-Dehumidifiers	0
9	PSP-Consumer-Residential-AC_Room	40
9	PSP-Consumer-Residential-AC_Room	0
12	PSP-Consumer-Residential-Dehumidifiers	40
12	PSP-Consumer-Residential-Dehumidifiers	0
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_2	960
19	PSP-Consumer-Residential-Furnace_ECM_2	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
18	PSP-Consumer-Residential-AC_Room	475
18	PSP-Consumer-Residential-AC_Room	475
18	PSP-Consumer-Residential-AC_Room	475
18	PSP-Consumer-Residential-AC_Room	475
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_3	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960
19	PSP-Consumer-Residential-Furnace_ECM_1	960

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18	PSP-Consumer-Residential-AC_Central	475
18	PSP-Consumer-Residential-AC_Central	475
19	PSP-Consumer-Residential-Furnace_ECM_3	959
7	PSP-Consumer-Residential-Lighting	2
18	PSP-Consumer-Residential-AC_Central	1034550
6	PSP-Business-Commercial-Miscellaneous_Equipment	1
11	PSP-Business-Commercial-Lighting_Interior_General	401200
9	PSP-Business-Commercial-Lighting_Small Business	0
6	PSP-Business-Commercial-Miscellaneous_Equipment	100000
6	PSP-Business-Commercial-Miscellaneous_Equipment	57985.78
7	PSP-Consumer-Residential-Lighting	0
19	PSP-Consumer-Residential-Furnace_ECM_3	959
11	PSP-Business-Commercial-Lighting_Interior_General	0
6	PSP-Business-Commercial-Miscellaneous_Equipment	1
15	PSP-Business-Commercial-Cooling_DX	1620
9	PSP-Consumer-Residential-Furnace_ECM_3	0
7	PSP-Consumer-Residential-Lighting	681435
19	PSP-Consumer-Residential-Furnace_ECM_3	959
8	PSP-Business-Commercial-Lighting_Small Business	-140.24
14	PSP-Consumer-Residential-Refrigerators	30

10 PSP-Consumer-Residential-Furnace_ECM_3 0

10 PSP-Consumer-Residential-Furnace_ECM_3 0

6	PSP-Business-Commercial-Miscellaneous_Equipment	1
6	PSP-Business-Commercial-Miscellaneous_Equipment	1
6	PSP-Business-Commercial-Miscellaneous_Equipment	1
13	PSP-Consumer-Residential-Furnace_ECM_3	3240
9	PSP-Consumer-Residential-Furnace_ECM_3	110352
14	PSP-Business-Commercial-Lighting_Interior_General	90639
10	PSP-Business-Commercial-Lighting_Interior_General	50111.14
6	PSP-Business-Commercial-Miscellaneous_Equipment	1
10	PSP-Consumer-Residential-Lighting	441249
7	PSP-Consumer-Residential-Lighting	106545
7	PSP-Consumer-Residential-Lighting	2768121
10	PSP-Consumer-Residential-Clothesline	76.75

18 PSP-Consumer-Residential-AC_Central 3060

20	PSP-Business-Commercial-Miscellaneous_Equipment	538034
20	PSP-Business-Commercial-Miscellaneous_Equipment	723000
19	PSP-Consumer-Residential-Furnace_ECM_3	141000
15	PSP-Business-Commercial-Cooling_DX	2100
6	PSP-Business-Commercial-Miscellaneous_Equipment	621507.37
19	PSP-Consumer-Residential-Furnace_ECM_3	294000
11	PSP-Business-Commercial-Lighting_Interior_General	0
20	PSP-Business-Commercial-Miscellaneous_Equipment	17385714.29
20	PSP-Business-Commercial-Miscellaneous_Equipment	1609714.286
20	PSP-Business-Commercial-Miscellaneous_Equipment	1349714
20	PSP-Business-Commercial-Miscellaneous_Equipment	723143
20	PSP-Business-Commercial-Miscellaneous_Equipment	4650000
20	PSP-Business-Commercial-Miscellaneous_Equipment	111429
20	PSP-Business-Commercial-Miscellaneous_Equipment	106234
20	PSP-Business-Commercial-Miscellaneous_Equipment	0
20	PSP-Business-Commercial-Miscellaneous_Equipment	0
11	PSP-Business-Commercial-Lighting_Interior_General	10283999
9	PSP-Business-Commercial-Lighting_Interior_General	232723
11	PSP-Business-Commercial-Lighting_Interior_General	31680
10	PSP-Business-Commercial-Lighting_Interior_General	150286.95

9	PSP-Business-Commercial-Lighting_Small Business	277871
20	PSP-Business-Commercial-Miscellaneous_Equipment	0
10	PSP-Business-Commercial-Lighting_Interior_General	32,297,515.00
11	PSP-Business-Commercial-Lighting_Interior_General	2526858
7	PSP-Consumer-Residential-Lighting	663114

NET-TO-GROSS (ENERGY)	NET-TO-GROSS (DEMAND)	FIRST YEAR NATURAL GAS SAVINGS (MMBtu)	FIRST YEAR WATER SAVINGS (Litre)	EARLY REPLACEMENT
0.78	0.77	26.4	0	No
0.68	0.69	0	0	No
0.73	0.71	30.7	0	No
0.70	0.68	0	0	No
0.68	0.73	31.3	0	No
0.51	0.51	0	0	No
0.57	0.57	0	0	No
0.47	0.47	0	0	No
0.38	0.38	0	0	No
0.38	0.38	0	0	No
0.48	0.48	0	0	No
0.47	0.47	0	0	No
1.00	1.00	0	0	No
0.99	0.99	0	0	No
0.63	0.63	0	0	No
1.00	1.00	0	0	No
0.54	0.54	0	0	No
0.94	0.94	0	0	No
0.94	0.94	0	0	No
0.94	0.94	0	0	No
1	1	346.06	0	No
0.682	0.692	0	0	No
0.682	0.692	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
n/a	n/a	0	0	No
0.682	0.692	0	0	No
n/a	n/a	0	0	No
0.682	0.692	0	0	No
0.682	0.692	0	0	No

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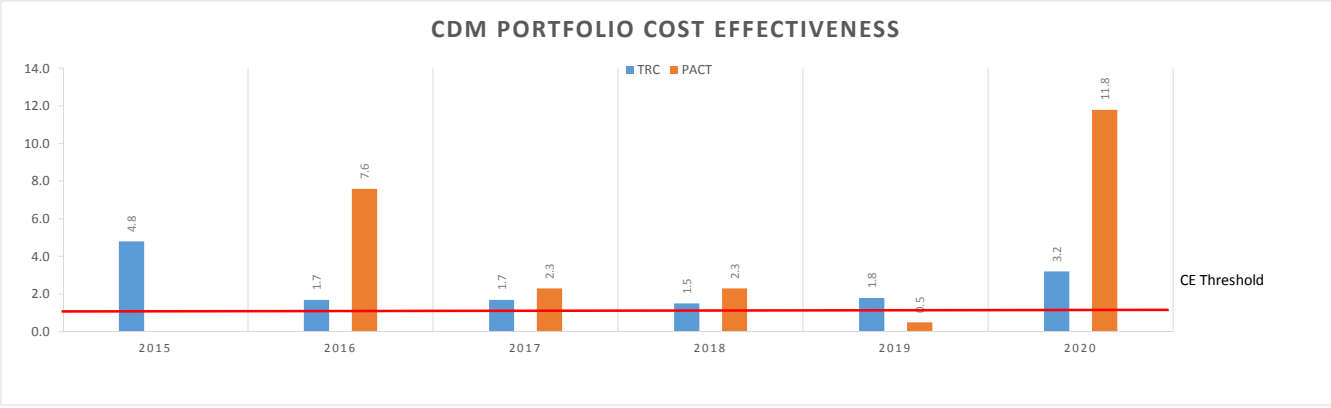
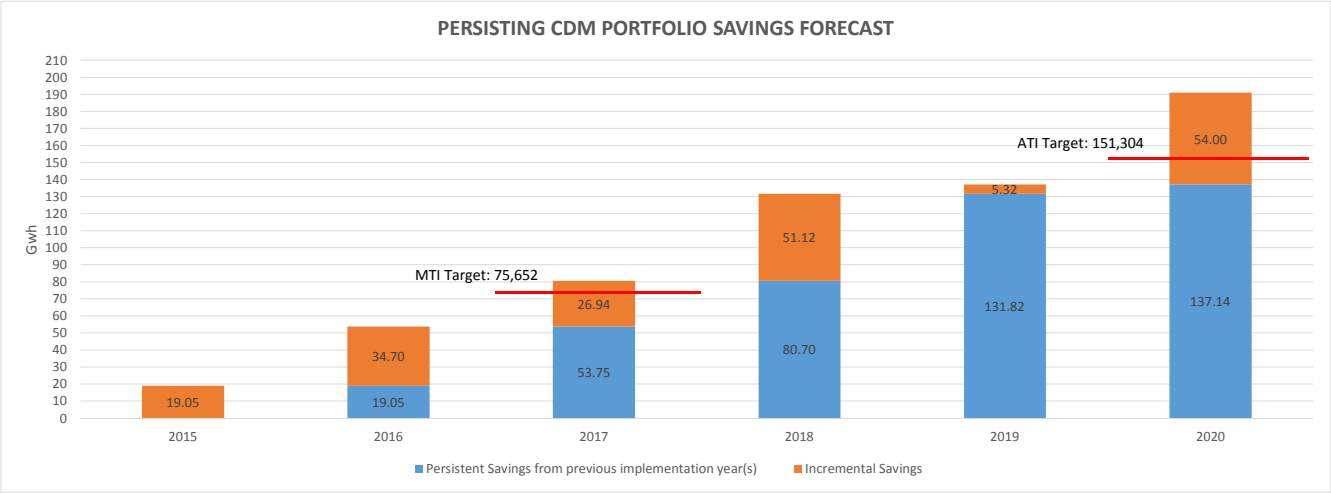
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SUMMARY OF PERSISTING CDM PORTFOLIO SAVINGS				
Plan Persisting Savings (end-user level)	Year	Persistent Savings from previous implementation year(s)	Incremental Savings	Plan Total
	2015	-	19.05	19.05
	2016	19.05	34.70	53.75
	2017	53.75	26.94	80.70
	2018	80.70	51.12	131.82
	2019	131.82	5.32	137.14
	2020	137.14	54.00	191.14

Program Year	TRC	PACT
2015	4.8	
2016	1.7	7.6
2017	1.7	2.3
2018	1.5	2.3
2019	1.8	0.5
2020	3.2	11.8



Comments

1	Enwin's CDM Plan submission indicates an above target performance within budget, forecasting the the acheivement of the MIT
2	Enwin's CDM Plan submission indicates acheivement of all required Cost Effectiveness parameters
3	Note that advanced payments option selected by a customer for a PSUP CHP project are modelled in the plan with \$3.0 M in 2018 and \$6.0 M in 2019 while the energy savings are slated for 2020. The advance payment of \$6.0 M modelled in 2019 creates a PACT result of 0.5. When the advanced payments are modelled in the same year as the 2020 energy savings the PACT for 2019 becomes 1.7 and 3.9 in 2020. However for budgetary approval reasons the advanced payments were modelled in the years required.



		Total 2015 - 2020				
Sector	Program	Total Plan Budget (\$)	Total Persisting Energy Savings in 2020 (MWh)	\$ per Kwh	% of MWh Target	% of Budget
Business	Energy Manager Program CFF	\$ 1,478,805.00	2,910	\$ 0.51	1.5%	3.8%
Business	Retrofit CFF	\$ 14,239,169.00	59,217	\$ 0.24	31.0%	37.1%
Business	Audit Funding Program CFF	\$ 206,929.00	0		0.0%	0.5%
Business	Process and Systems Upgrades Program CFF	\$ 20,124,016.00	84,129	\$ 0.24	44.0%	52.4%
Business	Intelligent Air Tools Pilot CFF		0	\$ -	0.0%	0.0%
Business	Building Optimization Pilot CFF		1,800	\$ -	0.9%	0.0%
Business	Small Business Lighting CFF	\$ 184,220.00	742	\$ 0.25	0.4%	0.5%
Consumer	Coupon Program CFF	\$ 1,524,027.00	12,636	\$ 0.12	6.6%	4.0%
Consumer	Home Assistance Program CFF	\$ 63,659.00	55	\$ 1.17	0.0%	0.2%
Consumer	Residential Heat Pump Pilot CFF		158	\$ -	0.1%	0.0%
Consumer	Home Depot Pilot Program CFF		1	\$ -	0.0%	0.0%
Consumer	Whole Home Pilot Program CFF		260	\$ -	0.1%	0.0%
Consumer	SOE Energy Performance Program CFF		787	\$ -	0.4%	0.0%
Consumer	Instant Discount Program CFF	\$ 601,103.00	9,562	\$ 0.06	5.0%	1.6%
Business	Retrofit Initiative	-	13,524	\$ -	7.1%	0.0%
Business	Direct Install Lighting	-	1	\$ -	0.0%	0.0%
Business	Audit Funding	-	152	\$ -	0.1%	0.0%
Business	Process and Systems Upgrades Program	-	1,655	\$ -	0.9%	0.0%
Business	Energy Manager (PSUI)	-	162	\$ -	0.1%	0.0%
Consumer	Conservation Instant Coupon Booklet	-	902	\$ -	0.5%	0.0%
Consumer	Low Income Home Assistance Program	-	220	\$ -	0.1%	0.0%
Consumer	Residential New Construction	-	11	\$ -	0.0%	0.0%
Consumer	Heating and Cooling Initiative	-	835	\$ -	0.4%	0.0%
Consumer	Bi-Annual Retailer Event	-	1,423	\$ -	0.7%	0.0%
TOTAL		\$ 38,421,928.00	191,141	\$ 0.20	100.0%	100.0%

Comments

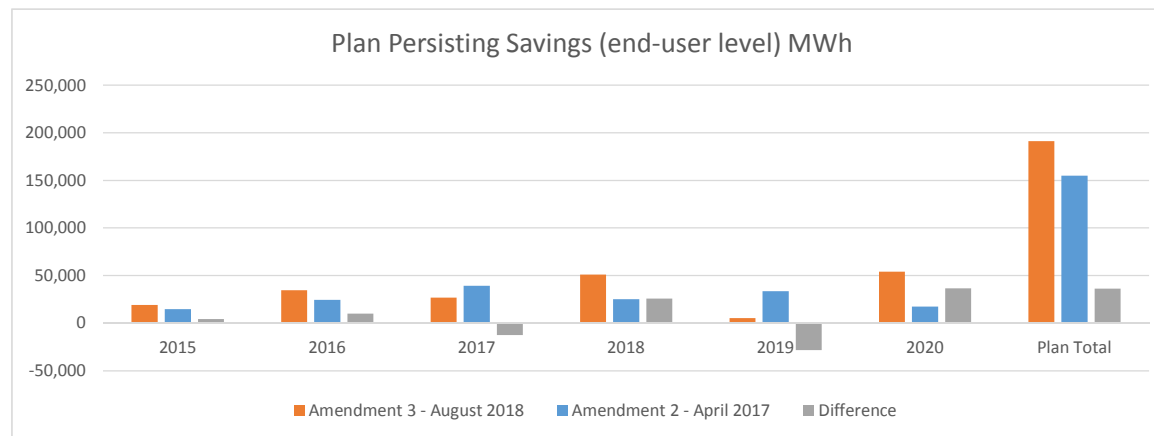
1	PSU Projects continue to be the biggest contributor to target and budget. This program assists in bringing the entire portfolio's cost effectiveness in line with long life, high yielding (kWh) measues.
2	Retrofit continues to be large contributor to target and budget.

Participation Forecast Development Overview

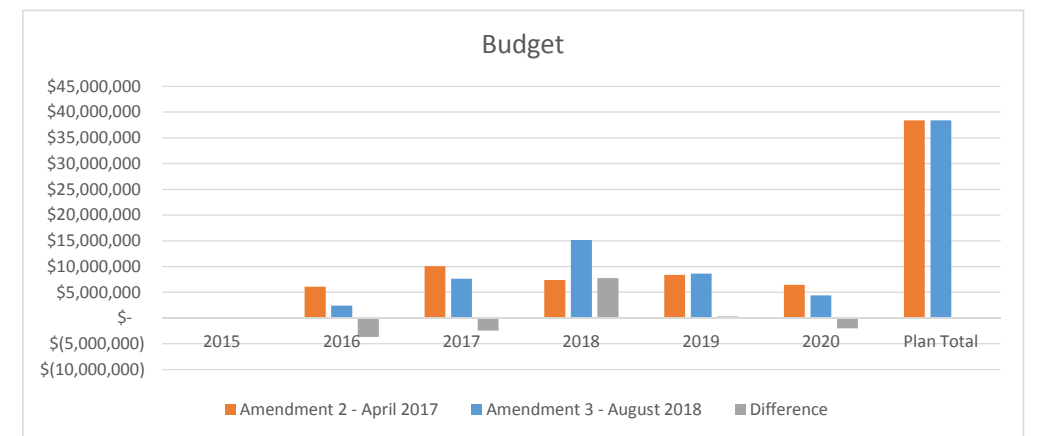
1	Please note that the plan amendments do not include a savings/spending forecast. The plan details our past achievements (2015-2017) and the expected energy savings / spending (inclusive of participant incentives and administration costs) associated with all projects currently under contract with ENWIN (pipeline projects).
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Plan Persisting Savings (end-user level) MWh			
Year	Amendment 2 - April 2017	Amendment 3 - August 2018	Difference
2015	14,807	19,052	4,245
2016	24,606	34,700	10,094
2017	39,326	26,944	-12,382
2018	25,138	51,122	25,984
2019	33,503	5,321	-28,182
2020	17,502	54,002	36,500
Plan Total	154,882	191,141	36,259



Budget			
Year	Amendment 2 - April 2017	Amendment 3 - August 2018	Difference
2015	\$ 0	\$ 111,618	111,618
2016	\$ 6,090,446	\$ 2,431,251	-3,659,195
2017	\$ 10,078,968	\$ 7,626,948	-2,452,020
2018	\$ 7,411,327	\$ 15,169,027	7,757,700
2019	\$ 8,385,417	\$ 8,653,596	268,179
2020	\$ 6,455,771	\$ 4,429,489	-2,026,282
Plan Total	\$ 38,421,929	\$ 38,421,929	0



Comments about variances from last submission

- Note that progress payments for 1 large PSU project (expected to complete in 2020) is modelled with \$3M in 2018, \$6M in 2019 and \$3.17M in 2020. This has led to a significant increase in spending in 2018. Additionally, you will note that the spending in 2019 is consistent between amendments 2 & 3, however there is a significant decrease in savings. Again this is due to the \$6M in progress payments.



ATTACHMENT 3 – E

OEB Appendix 2-H: Other Operating Revenue

Appendix 2-H
Other Operating Revenue

Description	Account(s)
Specific Service Charges:	4235
Late Payment Charges:	4225
Other Distribution Revenues:	4382, 4384, 4090, 4205, 4210, 4215, 4220, 4230, 4240, 4245
Other Income and Expenses:	4305, 4310, 4315, 4320, 4325, 4330, 4335, 4340, 4345, 4350, 4355, 4357, 4360, 4362, 4365, 4370, 4375, 4380, 4385, 4390, 4395, 4398, 4405, 4410, 4415, 4420

Account Breakdown Details

For each "Other Operating Revenue" and "Other Income or Deductions" Account, a detailed breakdown of the account components is required. See the example below for Account 4405, Interest and Dividend Income.

	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Forecast	Bridge Year	Test Year
Revenue Basis												
COPAY	\$ 726,458	\$ 509,130	\$ 455,035	\$ 441,836	\$ 441,836	\$ 304,531	\$ 397,897	\$ 302,765	\$ 305,145	\$ 301,438	\$ 384,000	\$ 384,000
Life Payment Charges												
Collection Charges	\$ 843,511	\$ 804,550	\$ 507,865	\$ 630,392	\$ 655,556	\$ 156,337	\$ (715)	\$ (110)	\$ 2,220	\$ 550	\$ -	\$ 384,000
Total	\$ 1,409,969	\$ 1,196,720	\$ 1,062,835	\$ 1,132,028	\$ 1,117,220	\$ 502,868	\$ 397,182	\$ 304,245	\$ 305,616	\$ 301,874	\$ 384,000	\$ 384,000

Account 0115 - Other Utility Operations Income														
	2020 Actual	2019 Actual	2018 Actual	2017 Actual	2016 Actual	2015 Actual	2014 Actual	2013 Actual	2012 Actual	2011 Actual	2010 Actual	2009 Actual	2008 Actual	2007 Actual
Reported Basis	CG&P	CG&P	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS	MFPS
Disposal Income	\$ 2,410	\$ 2,330	\$ 2,830	\$ 3,051	\$ 2,470	\$ 4,000	\$ 6,417	\$ 7,360	\$ 1,400	\$ 811	\$	\$	\$	\$
Total	\$ 2,410	\$ 2,330	\$ 2,830	\$ 3,051	\$ 2,470	\$ 4,000	\$ 6,417	\$ 7,360	\$ 1,400	\$ 811	\$	\$	\$	\$

[illegible][illegible]

Total	5,779,000	15,064,000	15,010,000	13,800,000	12,920,000	9,750,177	9,575,000	9,200,000	9,700,000	9,200,000	12,000,000	7,700,000
Account 430 - Expenses of Non-Military Operations												
	2002 Actual	2012 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Proposed	Budget Year	Fiscal Year
Resources Base	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Shared Services Cost Allocation	510,000,000	511,572,000	511,224,000	512,749,000	513,382,000	512,272,000	510,154,000	512,275,000	511,600,000	510,000,000	510,000,000	510,000,000
Shared Services Cost Allocation - Internal	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Shared Services Cost Allocation - External	508,000,000	509,572,000	509,224,000	510,749,000	511,382,000	510,272,000	508,154,000	510,275,000	509,000,000	508,000,000	508,000,000	508,000,000
Shared Services Cost Allocation - Internal	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Shared Services Cost Allocation - External	506,000,000	507,572,000	507,224,000	508,749,000	509,382,000	508,272,000	506,154,000	508,275,000	507,000,000	506,000,000	506,000,000	506,000,000

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Bank Deposit Interest	-	-	-	-	-	-	-	-	204,494	2,229,722	-	687,666	440,000	440,000
Shareholders' Interest Revenue	5,183,361	-	-	-	-	-	-	-	-	-	2,281	-	-	-
Subsidiary Investment Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subsidiary Investment Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	5,183,361	-	-	-	-	-	-	-	5	204,494	2,281	687,666	440,000	440,000

Notes:
1. List and specify any other interest revenue.

Notes:

1 List and specify any other interest revenue.

2 In the transition year to IFRS, the applicant is to present information in both MFRS and CGAAP. In column N, present CGAAP transition year information. For the typical applicant that adopted IFRS on January 1, 2014 must be presented in both a CGAAP and MFRS line.