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**Phase III. Evaluation of Alternatives: Solar and Aggregation**  
**Comprehensive Energy Program Analysis and Strategic Plan – Phase III**  
**Project No. 01-06-78-51660**

## **CORPORATE CENTER**

### **SUMMARY AND CONCLUSION**

The [REDACTED] corporate center, located at [REDACTED], currently consists of five separate SDG&E accounts: the main Administrative building (AdmnBldg); Engineering I, II and break room (Eng I,II,Brkrm); Operations/Engineering III (Ops,EngIII); Construction and Warehouse (Const,Wrhse); and the Boardroom (BrdRm).

This analysis looked at; 1) the rate advantage that could be gained by aggregating all five separate SDG&E accounts into a single SDG&E service account, and 2) the value of adding on-site solar generation to service a single SDG&E service account at the site.

Ops,EngIII, EngI,II,Brkrm, and BrdRm are currently on a small commercial SDG&E Tariff (TOU-A-P). A characteristic of TOU-A-P is that all the charges are energy (kWH) charges – there are no demand charges. The AdmnBldg and EngI,II,Brkrm are on a medium commercial SDG&E tariff (AL-TOU) which has energy charges and both an on-peak and a maximum (noncoincident) demand charge. After aggregation, the site will be on an AL-TOU tariff.

The following table is summary of the aggregation analysis. Aggregating all five accounts into a single site account will save a little over \$9,000 per year if it was shifted to a straight AL-TOU tariff (no Critical Peak Pricing-CPP). If the account was on a CPP-D commodity option some of these savings would disappear (the capacity reservation charge would cost almost \$1,100 per year and each CPP Event would cost about \$500).

Account	Meter Number	SDGE account number	Annual Max demand (KW)	On-Peak Max (KW)	Total kWh	SDGE Tariff	Annual Bill (w/o CPP events)	\$/kWh
AdminBldg	2555640	1708584106	33	22	101,597	AL-TOU/ CPP-D	\$21,902	\$0.216
Eng I,II, Brkrm	6680472	28335841083	37	19	38,740	AL-TOU	\$13,636	\$0.352
Ops, Eng III	6561254	23284060629	10	10	29,965	TOU-A-P	\$7,729	\$0.258
Const,Wrhse	6563123	5083584100	22	16	78,955	TOU-A-P	\$18,699	\$0.237
BrdRm	6487406	3893294804	13	13	8,131	TOU-A-P	\$2,150	\$0.264
		<b>Sum</b>	<b>115</b>	<b>80</b>	<b>257,387</b>		<b>\$64,117</b>	<b>\$0.249</b>
		<b>Site Aggregated Load</b>	<b>86</b>	<b>54</b>	<b>257,387</b>	<b>AL-TOU</b>	<b>\$54,940</b>	<b>\$0.213</b>
<b>Aggregation Savings Per Year</b>							<b>\$9,177</b>	

For the solar analysis, a 125 kW(ac) solar project, sized to match aggregated site load during the past year, was evaluated. This solar project will produce 254,215 kWh initially, the aggregated site load during the past year was 257,387 kWh. Hourly solar generation was compared with hourly site loads and evaluated at current AL-TOU(ECC-CPP-D) rates.

The solar project will reduce the aggregated site bill from \$54,940 to \$20,327 annually, a savings due to solar of \$34,612<sup>1</sup>. The value of the solar generation is about \$0.136/kWh<sup>2</sup>. This is a conservative estimate. There was no assumption of increases in future SDG&E costs and no inclusion of CPP events in the break-even determination. The aggregated site was assessed using the ECC-CPP-D(Critical Peak Pricing) commodity tariff. After solar, each CPP event would save about \$25 (in addition to the annual capacity reservation charge of approximately \$1,100).

There are two main financial options for this project, owner finance and build or a power purchase agreement (PPA). If an entity like [REDACTED] owns the project they can take advantage of tax-exempt financing and keep all the savings themselves. Under a PPA the supplier can take advantages of tax benefits like investment tax credits and accelerated depreciation but [REDACTED] would be locked into the contracted rate for solar generation for the duration of the contract.

The following table provides the break-even point (point above which the solar project is not cost effective) for both a PPA and [REDACTED] owned project for various financial horizons.

Break-Even Points for Corporate Center Solar Project				
	<b>Solar Only</b>			
PPA	PPA price of \$0.1362/kWh with no annual escalation			
	10 years	15 years	20 years	25 years
[REDACTED] owned	\$2.35/w(ac)	\$3.25/w(ac)	\$4.05/w(ac)	\$4.8w(ac)
	<b>Solar Plus Account Aggregation Savings</b>			
PPA	PPA price of \$0.1716/kWh with no annual escalation			
	10 years	15 years	20 years	25 years
[REDACTED] Owned	\$3.00/w(ac)	\$4.2/w(ac)	\$5.2/w(ac)	\$6.0/w(ac)

<sup>1</sup> This is in addition to the approximately \$9,000 that would be saved by aggregating accounts.

<sup>2</sup> Solar is worth about \$0.1716 if the savings from aggregating the accounts is included.

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## INTRODUCTION

Phase III (Evaluation of Solar and Aggregation) in this project was authorized September 12, 2018. It authorized the evaluation of account aggregation and adding solar projects at the [REDACTED] Corporate Center - [REDACTED], Lower [REDACTED] Canyon, [REDACTED] Pump Station 1-6, [REDACTED] Forebay and the evaluation of adding energy storage at [REDACTED] pumps 1-6 and 15-17. This report is a summary of the Corporate Center analysis: 1) the rate advantage that could be gained by aggregating all five separate SDG&E accounts into a single SDG&E service account, and 2) the value of adding on-site solar generation to service a single SDG&E service account at the site.

## ASSUMPTIONS

### CORPORATE CENTER - [REDACTED]

SDG&E Accounts - the main Administrative building (AdmnBldg); Engineering I, II and break room (Eng I,II,Brkrm); Operations/Engineering III (Ops,EngIII); Construction and Warehouse (Const,Wrhse); and the Board room (BrdRm).

### SOLAR

Requested Location: [REDACTED]  
Lat (deg N): [REDACTED] Long (deg W): [REDACTED]  
Elev (m): 456.12  
AC System Size (kW): 125 kW  
Module Type: Premium  
Array Type: Fixed (roof mount) Array Tilt (deg): 20 Array Azimuth (deg): 180  
System Losses: 14.08  
Invert Efficiency: 96%  
Annual Production: 254,215 kWh

### ECONOMIC

Annual Degradation: 0.05%  
Project Economic Life: 10, 15, 20, and 25 years  
Interest Rate: 3%  
Capital Recovery Factor: 10 years (.1172), 15 years (.0838), 20 years (0.0672), 25 years (.0574)  
Site Load: December 2017-November 2018.  
Cost of Aggregated Site Load: valued at AL-TOU(EECC-CPP-D) tariff.  
Value of Solar On-Site Generation: valued at AL-TOU(EECC-CPP-D) tariff (full retail). Demand credit for on-peak demand reductions, no demand credit for non on-peak reductions.  
Value of Exported (NEM2 Credit) Solar Generation: AL-TOU(EECC-CPP-D) energy rates (no demand credit) minus non bypassable charges (Public Purpose Program, Nuclear Decommissioning, Competitive Transition, and Department of Water Resources Charges) at \$0.01269/kWh.

**SITE AGGREGATION**

Each account was evaluated independently based upon its current default tariff. Ops,EngIII, EngI,II,Brkrm, and BrdRm are currently on a small commercial SDG&E Tariff (TOU-A-P). A characteristic of TOU-A-P is that all the charges are energy (kWh) charges – there are no demand charges. The AdmnBldg and EngI,II,Brkrm are on a medium commercial SDG&E tariff (AL-TOU) which has energy charges and both an on-peak and a maximum (noncoincident) demand charge. Hourly load for the past year (December 2017-November 2018) was used.

Then the site loads were aggregated (combined into a single hourly load). After aggregation, the site will be on an AL-TOU tariff.

The following Table 1 is summary of the aggregation analysis. Aggregating all five accounts into a single site account will save a little over \$9,000 per year if it was shifted to a straight AL-TOU tariff (no Critical Peak Pricing-CPP). If the account was on a CPP-D commodity option some of these savings would disappear (the capacity reservation charge would cost almost \$1,100 per year and each CPP Event would cost about \$600).

Account	Meter Number	SDGE account number	Annual Max demand (KW)	On-Peak Max (KW)	Total kWh	SDGE Tariff	Annual Bill (w/o CPP events)	\$/kWh
AdminBldg	-----	-----	33	22	101,597	AL-TOU/CPP-D	\$21,902	\$0.216
Eng I,II, Brkrm	-----	-----	37	19	38,740	AL-TOU	\$13,636	\$0.352
Ops, Eng III	-----	-----	10	10	29,965	TOU-A-P	\$7,729	\$0.258
Const,Wrhse	-----	-----	22	16	78,955	TOU-A-P	\$18,699	\$0.237
BrdRm	-----	-----	13	13	8,131	TOU-A-P	\$2,150	\$0.264
		<b>Sum</b>	<b>115</b>	<b>80</b>	<b>257,387</b>		<b>\$64,117</b>	<b>\$0.249</b>
		<b>Site Aggregated Load</b>	<b>86</b>	<b>54</b>	<b>257,387</b>	<b>AL-TOU</b>	<b>\$54,940</b>	<b>\$0.213</b>
<b>Aggregation Savings Per Year</b>							<b>\$9,177</b>	

**Table 1. Corporate Center Aggregation, Account Demand and Usage, Resultant Bill**

**SOLAR ANALYSIS**

Hourly solar generation was compared to aggregated hourly site load during the last year. The general evaluation equation was:

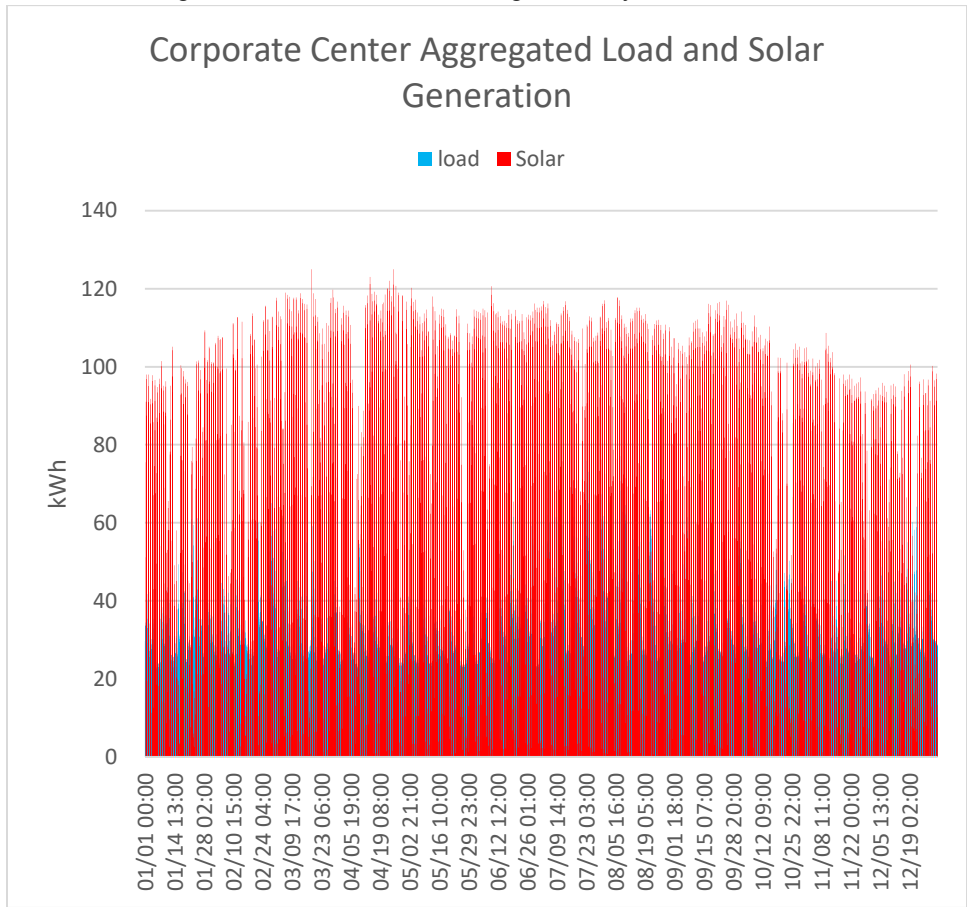
$$(\text{Site Load (hourly)} - \text{Solar production (hourly)}) = \text{Residual Purchases (hourly)} + \text{Solar Exports (NEM credits)} + \text{Solar Self-Gen (Used on site)}.$$

Table 2 shows the summary results. Residual purchases are site load in which still has to be purchased from SDG&E (i.e., site load in excess of solar generation). Solar exports are solar generation in excess of site load.

Site Load (Hourly)	- Solar Production (Hourly)	= Residual Purchases (Hourly)	+ Solar Exports (NEM Credits) (Hourly)	+ Solar Self-Gen (Used on Site) (Hourly)
257,387 kWh	254,215 kWh	142,555 kWh	139,382 kWh	114,832 kWh

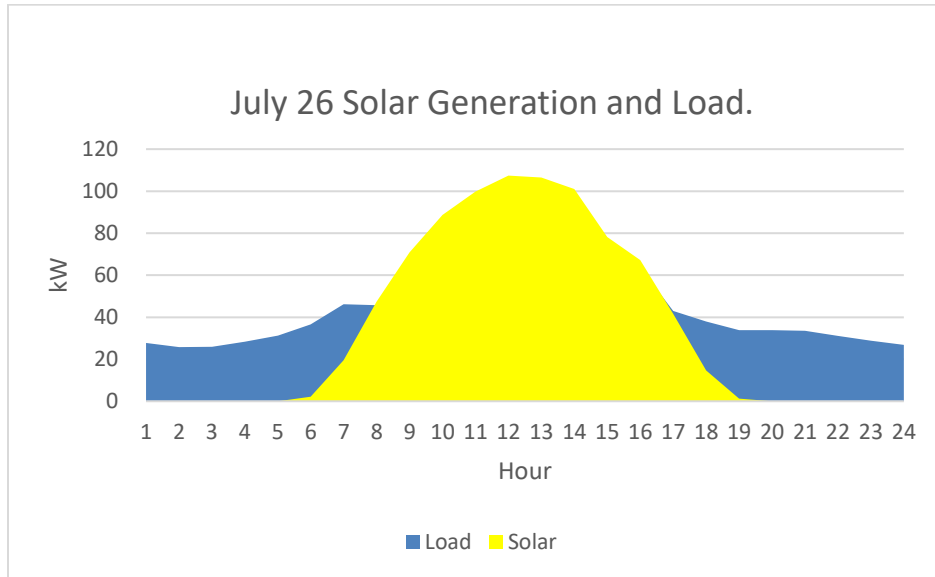
**Table 2. Corporate Center Solar Generation, Site Load, and Usage**

Figure 1 shows the solar generation and site load throughout the year.



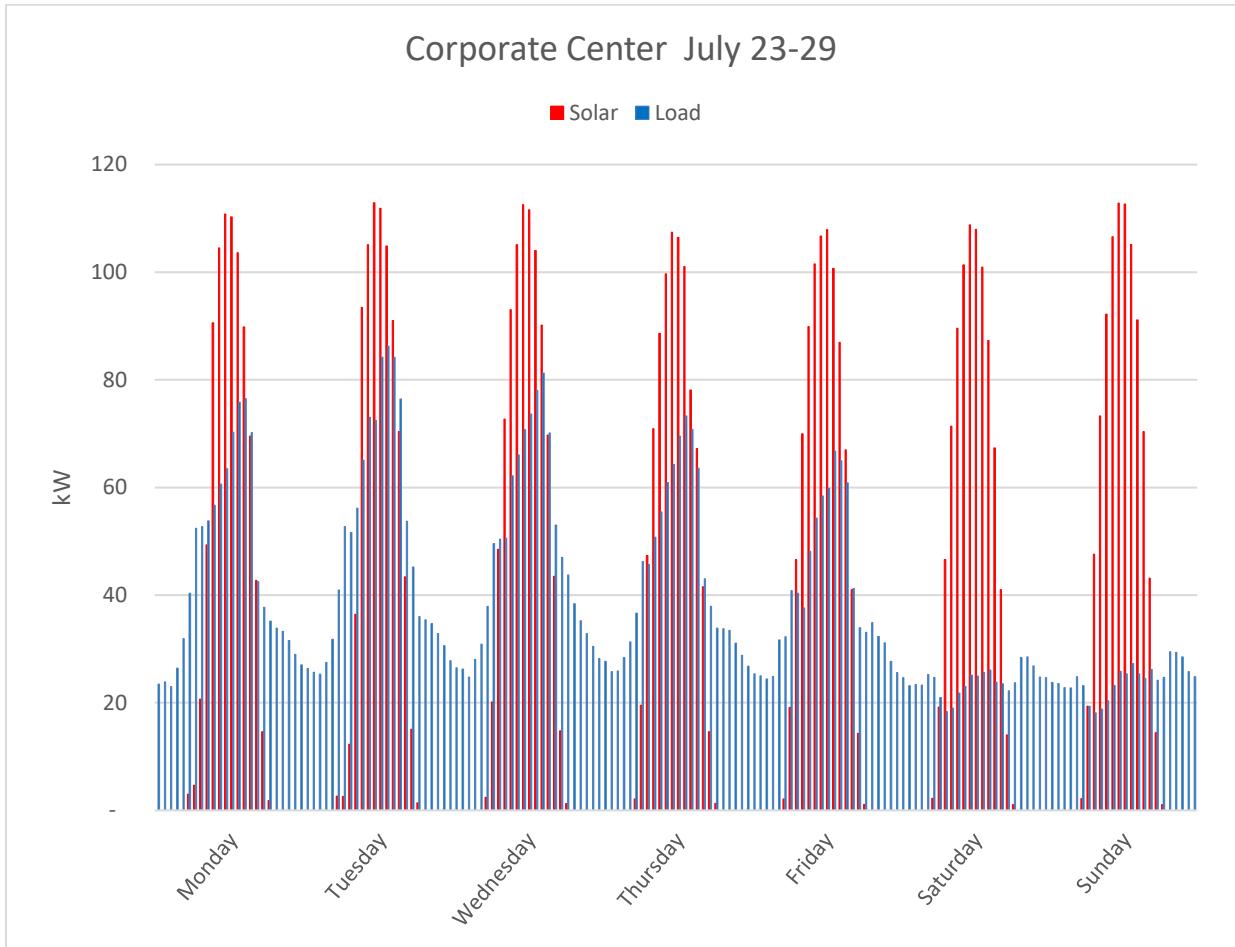
**Figure 1. Corporate Center Annual Site Load and Solar Generation**

Figure 2 illustrates the pattern of solar generation and site load during a typical summer day.



**Figure 2. Corporate Center Solar Generation and Load, Typical Summer Day**

As Figure 3 illustrates, the pattern of solar generation and site load throughout the week is consistent. The solar generation fairly closely matches the aggregated site load, significantly increasing the value of the solar generation.



**Figure 3. Corporate Center Solar Generation and Load, Typical Summer Week**

Table 3 provides a summary of the impact and value of the solar generation in year 1. As Table 2 illustrated, about 45% of the solar generation is used to meet site load<sup>3</sup>. NEM Credits are worth about \$15,000 per year that is counted against the utility bill for purchased electricity<sup>4</sup>. The solar project will reduce the site SDG&E bill by about \$35,000 per year<sup>5</sup>. The solar generation is worth about \$0.136/kWh<sup>6</sup>.

<sup>3</sup> This electricity was valued at full retail credit for energy costs and an on-peak and noncoincident demand credit for demand reductions.

<sup>4</sup> This project would be operating under NEM2, called NEM-ST (successor tariff) by SDG&E. One of the differences between the original NEM and NEM2 is that the credits exported from the site (electricity in excess of site load) are reduced by non bypassable charges (Public Purpose Program, Nuclear Decommissioning, Competitive Transition, and Department of Water Resources Charges). This reduction is \$0.01269/kWh from the hourly energy value (no credit is given for demand savings).

<sup>5</sup> This is in addition to the approximately \$9,000 per year savings from aggregating site accounts.

<sup>6</sup> Solar is worth about \$0.1716 if the savings from aggregating the accounts is included.



	<u>Site Load</u> <u>(December 2017-</u> <u>November 2018)</u>	<u>Solar</u> <u>Generation</u>	<u>Solar</u> <u>Used to</u> <u>Meet</u> <u>Site Load</u>	<u>Solar NEM</u> <u>Credit</u> <u>(excess of</u> <u>site load)</u>
	257,387 kWh	254,215 kWh	139,382 kWh	114,832 kWh
	<u>Original</u> <u>Bill</u>	<u>Bill</u> <u>After</u> <u>Solar</u>	<u>Annual</u> <u>Savings</u> <u>due to</u> <u>Solar</u>	<u>Average</u> <u>Solar</u> <u>Value</u>
<b>Annual \$</b>	\$54,940	\$20,327	\$34,612	
<b>\$/kWh</b>	\$0.2135	\$0.0790		\$0.1362

**Table 3. Value of Solar Generation Summary Year 1**

### CPP

One tariff commodity option is EECC-CPP-D (Critical Peak Pricing). This commodity option provides for slightly reduced energy (kWh) cost throughout the year in exchange for substantially higher costs for power during CPP (Critical Peak Pricing) events.

CPP events can be triggered anytime, up to eighteen(18) events per year. During a called CPP event (from 2 pm to 6 pm) the cost (or value) for electricity increases substantially (to \$2.1987/kWh).

Aggregating all five accounts into a single site account will save a little over \$9,000 per year if it was shifted to a straight AL-TOU tariff (no Critical Peak Pricing-CPP). If the account was on a CPP-D commodity option much of these savings would disappear (the capacity reservation charge would cost almost \$1,100 per year and each CPP Event would cost about \$500).

There would have been about 215 kWh used on-site during a CPP event<sup>7</sup> from the aggregated load. Table 4 shows that each CPP event costs about \$500 in increased costs. Given the two to four CPP events expected to occur each year, this adds \$2,000 per year to the cost of serving the aggregated load. If solar is installed on the site, there is about 14 kWh used on-site during the CPP event, and about 25 kWh exported during the event, resulting a net savings of about \$24 per CPP event.

	<u>kWh</u>	<u>\$/kWh</u>	<u>CPP Event Value</u>
<b>Aggregated Load</b>	215	\$2.1987	\$473
<b>Solar Residual Load</b>	14	\$2.1987	\$31
<b>Solar Sales</b>	25	\$2.1987	-\$55

**Table 4. Corporate Center Costs During CPP Event**

<sup>7</sup> Using July 26<sup>th</sup> as a typical day.

**COST-EFFECTIVENESS EVALUATION**

There are two main financial options for this project, owner finance and build or a power purchase agreement (PPA). If an entity like ██████ owns the project they can take advantage of tax-exempt financing and keep all the savings themselves. Under a PPA the supplier can take advantages of tax benefits like investment tax credits and accelerated depreciation but ██████ would be locked into the contracted rate for solar generation for the duration of the contract.

The following table provides the break-even point (point above which the solar project is not cost effective) for both a PPA and ██████ owned project for various financial horizons<sup>8</sup>.

Break-Even Points for Corporate Center Solar Project				
	<b>Solar Only</b>			
PPA	PPA price of \$0.1362/kWh with no annual escalation			
	10 years	15 years	20 years	25 years
██████ owned	\$2.35/w(ac)	\$3.25/w(ac)	\$4.05/w(ac)	\$4.8w(ac)
	<b>Solar Plus Account Aggregation Savings</b>			
PPA	PPA price of \$0.1716/kWh with no annual escalation			
	10 years	15 years	20 years	25 years
██████ Owned	\$3.00/w(ac)	\$4.2/w(ac)	\$5.2/w(ac)	\$6.0/w(ac)

**Table 5. Corporate Center Solar Project Economic Analysis**

**DISCUSSION**

**ACTUAL SAVINGS LIKELY TO BE HIGHER**

This analysis is a conservative estimate. There was no assumption of increases in future SDG&E costs and no inclusion of CPP events in the break-even determination. SDG&E retail rates have traditionally been increasing 5-7% per year. Higher future retail rates will increase the savings estimates shown here.

**TIME-OF-USE PERIOD CHANGE IMPACTS ON RESULTS**

The definition of time-of-use (TOU) periods is especially important when the economics of a solar project rely heavily upon credits created by exports during the on-peak period. As Figure 3 illustrates, the solar generation at this site closely mirrors the site load, meaning that a large portion of the solar production is being used to meet site load. This solar electricity is being valued at full retail costs. Of particular importance is the demand charge reductions. AL-TOU has on on-peak demand charge of \$16.48/kW but a noncoincident demand charge of \$21/kW, and solar generation significantly reduces the noncoincident peak demand. Changes in TOU periods will not have significant impact on the value of solar generation from this project.

<sup>8</sup> Using a 3% interest rate.

**APPENDIX 1. Monthly Corporate Center Aggregation and Solar Project Evaluation Values**

		Ops, Engr,II (TOU-A-P)			Const,Wrhse (TOU-A-P)			Brdrm (TOU-A P)		
		[kWh]	[kW]	Value	[kWh]	[kW]	Value	[kWh]	[kW]	Value
Jan										
1	on-peak	449	4	\$96.99	1,476	15	\$318.98	180	5	\$38.82
1	off-peak	1,001	5	\$204.04	2,903	19	\$591.81	351	6	\$71.59
1	superoff-peak	528	3	\$106.76	2,110	19	\$426.88	204	1	\$41.31
Feb				\$450.14			\$1,408.16			\$186.31
2	on-peak	396	4	\$85.49	1,252	14	\$270.46	122	5	\$26.31
2	off-peak	852	4	\$173.64	2,678	19	\$545.90	314	10	\$63.91
2	superoff-peak	529	4	\$106.99	2,134	18	\$431.76	161	1	\$32.51
Mar				\$407.21			\$1,315.96			\$156.45
3	on-peak	417	4	\$90.16	1,309	13	\$282.86	144	4	\$31.02
3	off-peak	953	4	\$194.19	2,878	17	\$586.71	374	9	\$76.23
3	superoff-peak	523	4	\$105.72	2,276	18	\$460.39	164	7	\$33.22
Apr				\$431.88			\$1,400.29			\$174.73
4	on-peak	438	7	\$94.71	1,152	13	\$248.94	112	4	\$24.24
4	off-peak	980	8	\$199.70	2,696	14	\$549.56	283	6	\$57.77
4	superoff-peak	510	4	\$103.18	1,931	13	\$390.68	170	2	\$34.40
May				\$439.63			\$1,255.25			\$149.95
5	on-peak	469	6	\$101.40	1,075	14	\$232.27	136	7	\$29.38
5	off-peak	1,091	7	\$222.31	2,885	15	\$587.98	365	8	\$74.42
5	superoff-peak	610	5	\$123.32	1,947	13	\$393.95	193	2	\$39.13
Jun				\$490.57			\$1,281.06			\$177.27
6	on-peak	695	8	\$267.73	1,121	13	\$431.60	148	8	\$57.06
6	off-peak	1,543	9	\$413.39	3,382	18	\$906.17	410	9	\$109.98
6	superoff-peak	726	6	\$194.47	1,885	14	\$505.17	179	4	\$36.16
Jul				\$924.09			\$1,912.80			\$237.80
7	on-peak	932	9	\$358.77	1,276	16	\$491.31	176	11	\$67.64
7	off-peak	1,910	10	\$511.91	3,931	22	\$1,053.44	413	10	\$110.63
7	superoff-peak	1,022	9	\$273.95	2,255	17	\$604.11	207	6	\$41.87
Aug				\$1,198.75			\$2,225.42			\$255.10
8	on-peak	867	10	\$334.05	1,280	15	\$492.97	176	13	\$67.85
8	off-peak	1,929	10	\$516.81	4,188	20	\$1,122.27	376	11	\$100.77
8	superoff-peak	833	7	\$223.15	2,138	17	\$572.90	198	7	\$40.03
Sept				\$1,126.65			\$2,265.60			\$243.33
9	on-peak	675	7	\$259.93	1,325	15	\$510.19	140	11	\$53.91
9	off-peak	1,381	8	\$369.97	3,258	17	\$873.01	321	8	\$85.99
9	superoff-peak	886	7	\$237.45	2,292	16	\$614.05	197	3	\$39.86
Oct				\$915.72			\$2,070.15			\$213.86
10	on-peak	608	6	\$234.00	1,476	13	\$568.31	126	7	\$48.46
10	off-peak	1,405	7	\$376.46	3,436	18	\$920.75	382	8	\$102.42
10	superoff-peak	689	5	\$184.62	2,167	17	\$580.57	154	2	\$31.17
Nov		0		\$841.94			\$2,143.79			\$216.18
11	on-peak	456	5	\$98.49	1,658	14	\$358.18	96	3	\$20.69
11	off-peak	1,067	6	\$217.51	2,720	16	\$554.34	264	5	\$53.78
11	superoff-peak	705	5	\$142.64	2,163	19	\$437.49	157	2	\$31.79
Dec				\$502.53			\$1,420.82			\$139.48
12	on-peak	420	5	\$90.74	1,471	14	\$317.83	155	5	\$33.39
12	off-peak	872	5	\$177.73	2,496	20	\$508.69	357	8	\$72.75
12	superoff-peak	601	4	\$121.52	2,337	17	\$472.80	227	5	\$45.86
				\$431.80			\$1,368.65			\$186.61
Annual		29,965	10	\$7,729.08	78,955	22	\$18,699.30	8,131	13	\$2,150.46

		ADM BLDG (AI-TOU-CPP-D)			EnglIBRKR M (AL-TOU)			AGGREGATED (AL-TOU)		
		[kWh]	[kW]	Value	[kWh]	[kW]	Value	[kWh]	[kW]	Value
Jan										
1	on-peak	1,524	15	\$415.83	487	9	\$203.86	4,116	38	\$1,110.05
1	off-peak	3,830	18	\$397.10	1,908	23	\$197.79	9,993	61	\$1,036.15
1	superoff-peak	2,667	15	\$622.56	813	7	\$555.22	6,322	41	\$1,852.11
Feb				\$1,648.56			\$1,139.91			\$4,288.81
2	on-peak	1,454	19	\$473.38	389	8	\$172.79	3,612	41	\$1,097.86
2	off-peak	3,601	20	\$373.37	1,790	37	\$185.61	9,234	77	\$957.51
2	superoff-peak	2,803	17	\$678.47	706	12	\$839.59	6,333	43	\$2,189.39
Mar				\$1,737.27			\$1,379.02			\$4,527.45
3	on-peak	1,484	14	\$398.06	448	10	\$220.43	3,802	37	\$1,044.23
3	off-peak	3,953	19	\$409.93	1,904	28	\$197.47	10,063	66	\$1,043.41
3	superoff-peak	2,809	17	\$649.59	736	19	\$662.52	6,507	63	\$1,967.13
Apr				\$1,672.06			\$1,262.71			\$4,344.91
4	on-peak	1,486	16	\$433.75	469	19	\$371.44	3,657	44	\$1,147.06
4	off-peak	3,706	23	\$384.23	1,713	15	\$177.66	9,378	55	\$972.41
4	superoff-peak	2,393	16	\$688.66	716	17	\$469.23	5,720	46	\$1,660.50
May				\$1,716.98			\$1,199.44			\$4,060.02
5	on-peak	1,539	15	\$422.21	408	8	\$184.23	3,628	37	\$1,024.52
5	off-peak	3,826	20	\$396.73	1,834	15	\$190.19	10,001	60	\$1,036.97
5	superoff-peak	2,430	13	\$637.45	745	9	\$382.77	5,926	36	\$1,785.33
Jun				\$1,668.05			\$938.86			\$4,131.86
6	on-peak	1,865	19	\$572.62	566	13	\$285.78	4,395	47	\$1,380.35
6	off-peak	4,570	25	\$741.50	2,236	19	\$423.96	12,142	71	\$2,012.45
6	superoff-peak	2,339	14	\$729.21	582	6	\$457.16	5,711	35	\$1,997.13
Jul				\$2,261.11			\$1,351.03			\$5,691.78
7	on-peak	2,192	22	\$673.62	669	17	\$368.72	5,245	54	\$1,616.33
7	off-peak	5,461	33	\$912.05	3,074	23	\$556.69	14,790	86	\$2,452.83
7	superoff-peak	2,995	24	\$953.58	792	16	\$563.34	7,270	66	\$2,464.57
Aug				\$2,768.72			\$1,680.06			\$6,867.13
8	on-peak	1,776	20	\$568.81	569	13	\$294.08	4,668	50	\$1,468.50
8	off-peak	5,954	32	\$964.52	2,812	19	\$490.91	15,259	77	\$2,429.22
8	superoff-peak	2,408	15	\$889.09	589	11	\$457.82	6,166	45	\$2,172.50
Sept				\$2,648.70			\$1,430.61			\$6,396.06
9	on-peak	1,606	17	\$497.15	473	10	\$228.01	4,219	43	\$1,295.12
9	off-peak	4,281	25	\$709.61	1,886	17	\$366.23	11,127	65	\$1,849.48
9	superoff-peak	2,591	22	\$756.04	670	16	\$423.04	6,636	54	\$1,968.99
Oct				\$2,178.72			\$1,199.20			\$5,413.78
10	on-peak	1,496	15	\$460.65	456	8	\$191.28	4,160	36	\$1,179.31
10	off-peak	4,431	23	\$707.96	1,960	15	\$359.14	11,614	66	\$1,911.33
10	superoff-peak	2,229	12	\$676.46	590	12	\$377.23	5,828	42	\$1,909.41
Nov				\$2,058.99			\$1,109.42			\$5,297.88
11	on-peak	1,409	12	\$366.97	354	5	\$124.05	3,973	36	\$1,060.59
11	off-peak	3,551	17	\$368.17	1,467	20	\$152.09	9,068	52	\$940.24
11	superoff-peak	2,448	18	\$598.69	674	18	\$490.63	6,146	49	\$1,636.62
Dec				\$1,543.06			\$945.36			\$3,920.20
12	on-peak	1,578	15	\$422.06	542	7	\$176.04	4,165	38	\$1,105.81
12	off-peak	3,703	19	\$383.99	1,646	25	\$170.67	9,073	60	\$940.83
12	superoff-peak	3,211	18	\$692.47	1,065	26	\$641.65	7,441	64	\$2,015.26
				\$1,714.53			\$1,171.67			\$4,353.95
	Annual	101,597	33	\$21,902.22	38,740	37	\$13,635.63	257,387	86	\$54,939.86

		Solar Generation	Site Aggregated Load (AL-TOU)			Residual Aggregated Load (AL-TOU-CPP-D)			Solar Sales (AL-TOU-CPP-D)		Solar Self Gen (AL-TOU-CPP-D)		
		[kWh]	[kWh]	[kW]	Value	[kWh]	[kW]	Value	[kWh]	Value	[kWh]	[kW]	Value
Jan													
1	on-peak	421	4,116	38	\$1,110	3,713	35	\$1,012	19	\$2	402	3	\$98
1	off-peak	12,787	9,993	61	\$1,036	4,376	13	\$454	7,171	\$744	5,616	48	\$582
1	superoff-peak	3,927	6,322	41	\$1,852	5,317	57	\$1,671	2,922	\$262	1,005	(16)	\$1,097
Feb					\$4,289			\$3,473		\$1,171			\$1,984
2	on-peak	608	3,612	41	\$1,098	3,117	36	\$1,048	113	\$13	495	5	\$139
2	off-peak	9,883	9,234	77	\$958	4,439	16	\$460	5,087	\$528	4,795	62	\$497
2	superoff-peak	5,315	6,333	43	\$2,189	5,072	61	\$1,736	4,055	\$364	1,261	(18)	\$1,406
Mar					\$4,527			\$3,576		\$1,068			\$2,246
3	on-peak	1,053	3,802	37	\$1,044	3,024	33	\$896	275	\$32	779	3	\$148
3	off-peak	16,804	10,063	66	\$1,043	3,761	11	\$390	10,503	\$1,089	6,301	54	\$653
3	superoff-peak	3,921	6,507	63	\$1,967	5,509	64	\$1,837	2,922	\$262	999	(1)	\$1,234
Apr					\$4,345			\$3,453		\$1,546			\$2,248
4	on-peak	1,108	3,657	44	\$1,147	2,865	44	\$1,055	315	\$37	793	-	\$92
4	off-peak	17,151	9,378	55	\$972	2,862	9	\$297	10,634	\$1,103	6,516	46	\$676
4	superoff-peak	4,649	5,720	46	\$1,661	4,635	46	\$1,392	3,564	\$320	1,085	-	\$1,055
May					\$4,060			\$3,061		\$1,622			\$2,038
5	on-peak	1,365	3,628	37	\$1,025	2,639	30	\$794	376	\$44	989	7	\$230
5	off-peak	17,883	10,001	60	\$1,037	2,686	8	\$278	10,568	\$1,096	7,315	51	\$758
5	superoff-peak	4,580	5,926	36	\$1,785	4,569	35	\$1,150	3,224	\$290	1,357	1	\$1,200
Jun					\$4,132			\$2,538		\$1,592			\$2,412
6	on-peak	1,717	4,395	47	\$1,380	2,977	35	\$984	299	\$42	1,417	12	\$396
6	off-peak	17,342	12,142	71	\$2,012	3,042	10	\$435	8,242	\$958	9,100	61	\$1,577
6	superoff-peak	6,050	5,711	35	\$1,997	4,307	35	\$1,113	4,646	\$417	1,404	1	\$1,409
Jul					\$5,692			\$2,849		\$1,580			\$3,621
7	on-peak	1,818	5,245	54	\$1,616	3,608	47	\$1,280	181	\$25	1,636	7	\$336
7	off-peak	17,205	14,790	86	\$2,453	3,614	11	\$518	6,029	\$701	11,175	75	\$1,935
7	superoff-peak	6,926	7,270	66	\$2,465	5,087	50	\$1,510	4,742	\$426	2,184	16	\$1,767
Aug					\$6,867			\$3,637		\$1,315			\$4,295
8	on-peak	1,497	4,668	50	\$1,468	3,338	41	\$1,143	167	\$23	1,330	9	\$325
8	off-peak	18,944	15,259	77	\$2,429	3,386	10	\$478	7,071	\$822	11,873	67	\$1,951
8	superoff-peak	5,072	6,166	45	\$2,172	4,930	46	\$1,414	3,836	\$345	1,236	(1)	\$1,520
Sept					\$6,396			\$3,361		\$1,352			\$4,049
9	on-peak	911	4,219	43	\$1,295	3,371	36	\$1,063	63	\$9	848	7	\$232
9	off-peak	15,214	11,127	65	\$1,849	2,848	10	\$413	6,935	\$806	8,279	56	\$1,436
9	superoff-peak	7,390	6,636	54	\$1,969	4,680	39	\$1,232	5,435	\$488	1,955	15	\$1,345
Oct					\$5,414			\$3,029		\$1,466			\$3,246
10	on-peak	414	4,160	36	\$1,179	3,750	35	\$1,106	3	\$0	411	1	\$74
10	off-peak	14,796	11,614	66	\$1,911	3,925	12	\$555	7,106	\$826	7,690	54	\$1,357
10	superoff-peak	4,636	5,828	42	\$1,909	4,803	43	\$1,332	3,611	\$324	1,025	(1)	\$1,235
Nov					\$5,298			\$3,324		\$1,314			\$2,885
11	on-peak	165	3,973	36	\$1,061	3,808	32	\$967	-	\$0	165	5	\$94
11	off-peak	11,601	9,068	29	\$940	3,716	12	\$385	6,250	\$648	5,352	17	\$555
11	superoff-peak	5,089	6,146	52	\$1,637	4,949	52	\$1,529	3,892	\$350	1,197	-	\$470
Dec					\$3,920			\$3,212		\$1,161			\$1,324
12	on-peak	132	4,165	38	\$1,106	4,032	37	\$1,078	-	\$0	132	1	\$27
12	off-peak	11,136	9,073	29	\$941	4,054	13	\$420	6,117	\$634	5,020	16	\$520
12	superoff-peak	4,703	7,441	64	\$2,015	5,747	60	\$1,780	3,009	\$270	1,694	4	\$487
					\$4,354			\$3,619		\$1,068			\$1,240
	Annual	254,215	257,387		\$54,940	142,555		\$35,515	139,382	\$15,187	114,832		\$30,349

**ATTACHMENT 1. TOU-A-P TARIFF**

**ATTACHMENT 2. AL-TOU TARIFF**



**ATTACHMENT 3 . EECC-CPP-D TARIFF**

**ATTACHMENT 4. NEM-ST TARIFF**