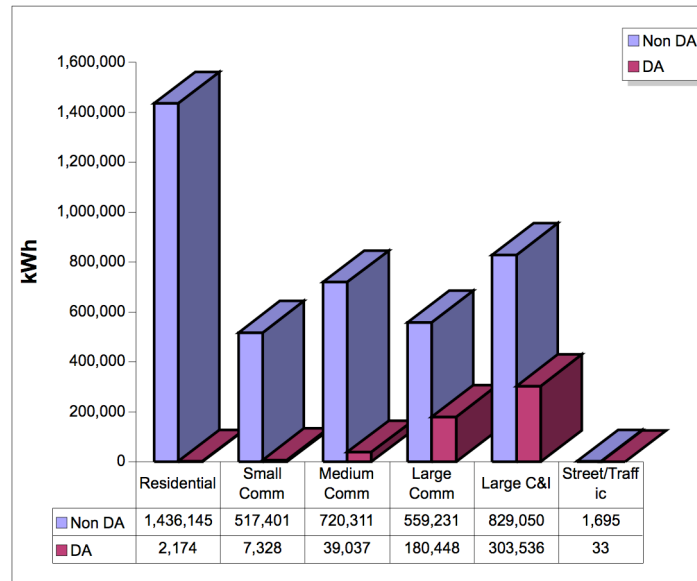


Chart 3 shows CCSF’s maximum, minimum, and average hourly energy usage for 2003. CCSF used PG&E’s system average load profiles also known as dynamic and static load profiles as posted on their website to shape monthly energy usage data provided by rate schedule.³³ The CCA’s demand peaks at 808 MW in hour 17 (5 PM) and reaches its lowest point in hour 5 (5 AM). However, on average CCA’s peak load is between 500-600 MW at 12 through 6 PM and its minimum load is just over 300 MW at 4 and 5 AM.

6.3 Direct Access Electric Consumption in CCSF

The California Legislature created the direct access (DA) market in 1995 via Assembly Bill 1890, also known as the retail “Electrical Restructuring Act.” The DA market allowed customers of the regulated utilities to leave the utility system to purchase electricity from private energy service providers (ESPs). The California DA market was suspended to new participants during the energy crisis of 2000-2001 by the CPUC in D. 01-09-060. The suspension barred new customers from leaving PG&E but allowed customers that were being served by DA providers at the time of suspension to continue being served by their ESP. The graph below illustrates the remaining penetration of direct access DA in the San Francisco market by customer class electrical demand.

**Exhibit 6-5:
Portion of CCSF Electrical Load Served by DA in 2003**



³³ CCSF’s use of load profiles in forecasting the CCA’s load is discussed in greater depth in Appendix B: Load Forecasting Assumptions. PG&E’s dynamic and static load profiles (system average load profiles) can be found at: http://www.pge.com/notes/rates/tariffs/energy_use_prices.shtml

In 2003, the DA market served approximately 12% of the electrical load in San Francisco. Notably, about 25% of the City's Large Commercial and Large Commercial and Industrial customers receive electric service through DA. These customers receive service from ESPs on a contractual basis. For this reason, customers participating in the DA market will not be automatically enrolled in the CCA during implementation. Instead, the CCA will need to determine if it wishes to pursue DA customers as their contracts expire. These customers will have to "opt-in" to the CCA program if they wish to participate.

6.4 Comparison of Potential CCSF CCA Customer Base to PG&E System Average

Since the City is assumed to offer CCA service to all eligible electrical customers within its jurisdiction it is important to assess the CCA from the perspective of zero opt-out, or 100% participation. Contrasting the characteristics of this customer base to PG&E's system average is also necessary because the CCA will be competing with PG&E for the customers within its jurisdiction. PG&E develops rates based on the characteristics and cost to serve their average customers within certain regulatory constraints. Those constraints include legislatively required discounts to low-income customers as well as rate caps for residential customers for consumption up to 130 % of baseline. These constraints limit PG&E's ability to charge rates that correlate with their cost to serve such customers. To the extent that the CCA competes with PG&E's rates for energy generation, the CCA ratemaking process will also be constrained by these regulatory requirements.

As a percentage of PG&E's system load and accounts, San Francisco represents roughly 5% of total energy load and 7% of total electrical customers. Exhibit VI-6 below compares CCSF's customer class characteristics for 2003 to PG&E's customer characteristics for the same year as reported in its Federal Energy Regulatory Commission (FERC) Filing (Form 1).³⁴ In order to establish a more apples to apples comparison of load between CCSF and PG&E, the departments selected only the customer account and load data for the rate schedules on which PG&E provides service to San Francisco customers. PG&E serves additional load to customers under rate schedules that do not exist in San Francisco. That data was not included in Exhibit 6-6 below.

³⁴ PG&E's FERC Form 1 is available on their website at: <https://www.pge.com/regulation/FERC-Form1/form1-2003.pdf>

**Exhibit 6-6:
CCSF and PG&E System Average Load Characteristics³⁵**

CCSF CCA (2003 Data)					
Sector	MWh	% of CCSF Total	Accounts³⁶	% of CCSF Total	Avg Energy (kWh)
Residential	1,436,144.88	35.3%	321,558	90.8%	4,466
Small Commercial	517,401	12.7%	27,935	7.9%	18,522
Medium Commercial	720,311	17.7%	3,473	1.0%	207,403
Large Commercial	559,231	13.8%	751	0.2%	744,648
Large C/I	829,050	20.4%	93	0.0%	8,914,515
Street/Traffic Lighting	1,695	0.0%	329	0.1%	5,152
Total	4,063,833	100.0%	354,139	100.0%	11,475
PG&E System Average (2003 FERC Form-1)					
Sector	MWh	% of PG&E Total	Accounts	% of PG&E Total	Avg Energy (kWh)
Residential	28,523,482	37.3%	4,282,914	89.3%	6,660
Small Commercial	10,748,068	14.1%	400,740	8.4%	26,821
Medium Commercial	12,128,831	15.9%	54,536	1.1%	222,400
Large Commercial	10,730,160	14.0%	10,460	0.2%	1,025,828
Large C/I	13,887,466	18.2%	1,125	0.0%	12,344,414
Street/Traffic Lighting	425,643	0.6%	46,305	1.0%	9,192
Total	76,443,650	100.0%	4,796,080	100.0%	15,939

As Exhibit 6-6 demonstrates, despite having a greater percentage of residential accounts, CCSF's electricity demand is slightly less residential than PG&E's. Small commercial customers are a smaller portion of San Francisco's overall demand than they are in PG&E's service territory. However, medium commercial and large commercial and industrial customers represent a higher portion of San Francisco's total load than they do in PG&E's system. Most notably, however, CCSF customers use on average less energy per account than similar customers in PG&E's

³⁵ 2003 Load data provided by PG&E. Data is not weather normalized. CCSF CCA data does not include BART, MUNI, or existing DA load.

³⁶ Medium Commercial, Large Commercial, and Large C/I account data was provided incomplete by PG&E due to application of the "15-15" Rule. CCSF estimated the total number of accounts for rate classes that were not provided by using PG&E's FERC Form 1 "KWh of Sales Per Customer" for these rate classes and dividing that figure into annual KWh totals for the associate rate classes for CCSF. CCSF is awaiting an update from PG&E pursuant to CPUC Decision 04-12-046.

system. San Francisco’s average annual energy consumption per account in 2003 was approximately 11,475 kWh, whereas PG&E’s was 15,939 kWh, or 39% more per account. San Francisco’s lower average energy use per customer than PG&E’s system average can be attributed to the impact of direct access, less air conditioning load, and less heavy industrial load.

6.5 CCSF Residential Baseline Percentages

PG&E charges residential customers different rates for electricity based on the volume of their consumption during a given billing period using a “baseline” rate system. Customer electrical consumption is tracked according to consumption “tiers,” or levels of consumption within and above the baseline quantity. Generally speaking, the more electrical energy consumed over a billing period, the higher the rates charged on a per unit basis (kilowatt hour, or kWh). At CCSF’s request PG&E provided residential energy consumption within the city for 12 months of 2003 broken into the 5 consumption rate “tiers.”³⁷ Residential tiered data allows CCSF to better understand how much energy the average San Franciscan household consumes as well as the average rates paid for that energy. The tiered rate structure starts with a baseline amount that is determined by climate zone region and reflects the typical energy consumption requirements of those geographic regions.

Baseline³⁸

Tier 2 – 101-130% of Baseline

Tier 3 – 131 – 200% of Baseline

Tier 4 – 201 – 300% of Baseline

Tier 5 – 301% of Baseline and above

The IOU’s are currently prohibited by the State Legislature (AB1X, 2002 legislative session) from raising residential electricity rates for consumption up to 130% of baseline, or through tiers 1 and 2. This rate “cap” presents a challenge for CCA rate design and price competition with PG&E. As discussed in more detail in Chapter 3: Ratesetting Dynamics, the CCA will need to decide if it wants to maintain the AB1X price cap for residential electricity consumption below 130% of baseline. The extent to which the average CCSF residential customer has more electricity consumption below the AB1X price-cap than does the average PG&E residential customer potentially leaves less room for the CCA to recoup generation costs from the residential customer class. The bar graph below illustrates CCSF’s tiered residential energy consumption in contrast to PG&E’s system residential consumption pattern. Tiers 1 and 2, which represent usage up to 130% of baseline, are grouped together as are Tiers 3, 4, and 5 in

³⁷ PG&E charged CCSF for this data on a time and materials basis.

³⁸ San Francisco is located in PG&E’s climate zone T baseline region and has a designated baseline quantity of 8.5 kWh/account/day in the summer – May through October – and 10.2 kWh/account/day in the winter – November through April.³⁸ To calculate the baseline over the course of a billing period, the daily baseline quantity is multiplied by the amount of days in the billing cycle. If there are 31 days in a summer billing cycle, the allowable baseline quantity for a San Franciscan household would then be 263.5 kWh. For the same amount of billable days during the winter the baseline amount would be 316.2 kWh. Consumption above and beyond this baseline amount falls into higher rate tiers and the customer is charged the associated tier’s rate for that consumption.

order to graphically demonstrate what portions of the generation bill are subject to the AB1X cap and which are not.

Exhibit 6-7: Comparison of the CCSF’s Actual Residential Rate Tier Consumption to PG&E’s System Average Applied to CCSF Residential Consumption³⁹

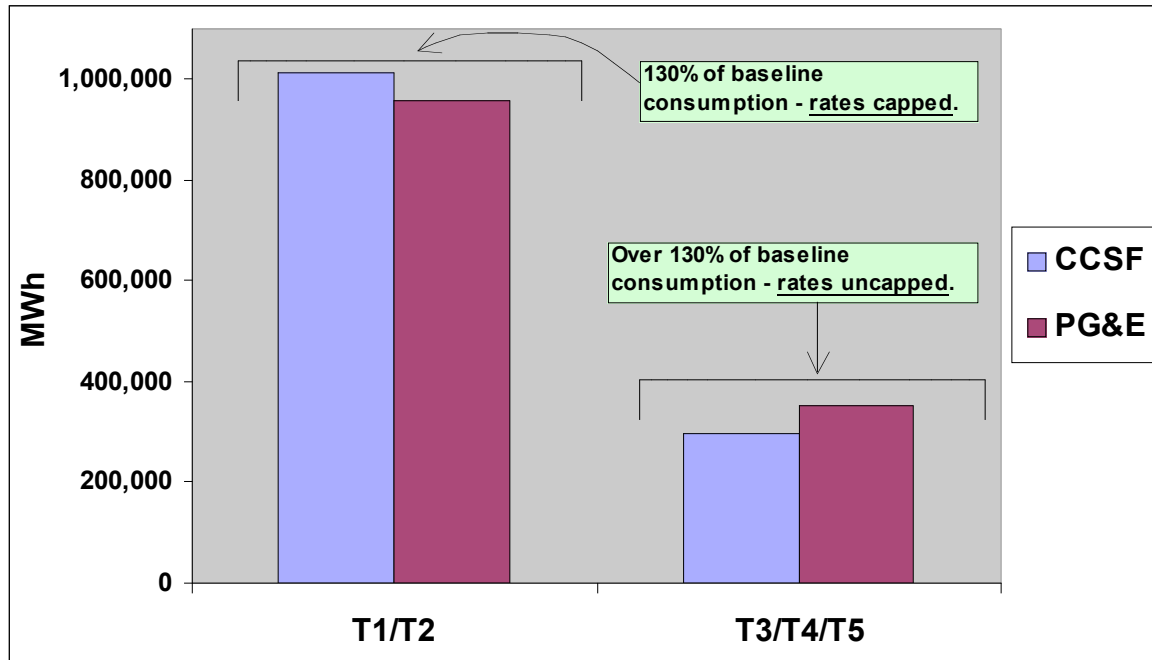


Exhibit VI-7 shows that in 2003 CCSF residential customers consumed more energy below 130% of baseline than did PG&E’s system average. As a percentage of total residential electric energy sales, consumption in tiers 1 and 2 represented 77% of San Francisco’s residential demand. By contrast, these same sales represented 73% of residential consumption in PG&E’s system as a whole. This means that for San Francisco residential customers, PG&E can only raise its rate for 23% of consumption per 2003 statistics.

If the CCA uses PG&E rates as a ceiling for purposes of setting its own rates, the AB1X cap on residential electricity usage up to 130% of baseline becomes a *de facto* cap for the CCA whether or not the cap is formally adopted by the City. PG&E partially uses uncapped rates in tiers 3, 4, and 5, to make up for revenue shortfalls created by not being able to raise rates in the lower tiers. To the extent that the CCA’s baseline consumption is higher than PG&E’s and its uncapped consumption is lower, the CCA is forced to compete against a lower average generation rate for residential usage. The average generation rate for residential usage refers to what PG&E customers in San Francisco would pay if they stayed with the utility.

³⁹ Tiered residential energy consumption data for CCSF was provided by PG&E for 2003. CCSF obtained PG&E’s residential baseline percentages from the CPUC Office of Ratepayer Advocates (ORA). For comparative purposes, CCSF imposed those percentages on top of its own total residential energy demand totals (kWh) for 2003.

Because PG&E's residential rates are tiered based on total consumption over the course of a billing period, the average volume of energy consumed in San Francisco impacts what the average rate a San Franciscan residential customer pays. Customers who consume more power above 130% of baseline pay a higher average rate and raise the overall average "rate to beat" in San Francisco. Moreover, in terms of cost allocation, the high use customers help keep rates low for those who consume most of their power within or around the baseline level.

6.6 California Alternative Rates for Energy Data

The California Alternative Rates for Energy or "CARE" program is a low-income ratepayer assistance program PG&E is required to provide pursuant to CPUC Decisions 89-07-062, 89-09-044, and 94-12-049. The purpose of the CARE program is to provide qualifying low-income residential customers of the regulated utilities reduced charges for energy. At the time of writing, PG&E residential CARE customers receive a 20% discount on their electric rates plus an exemption from the electric energy procurement surcharge.⁴⁰ The types of PG&E customers that qualify include all individually metered and certain sub-metered residential customers, non-profit group-living facilities, and qualifying agricultural employee housing facilities. CCSF is unaware of any of the latter type of CARE customers in San Francisco.

PG&E provided CCSF with data on participation in the CARE program in San Francisco for 2003 including the estimated number of CARE eligible customers, the number of enrolled CARE customers by rate schedule, and tiered energy usage by rate schedule. CCSF CARE data is shown contrasted with Non-CARE residential data in Exhibit VI-8 below.

Exhibit 6-8: 2003 San Francisco Residential CARE and Non-CARE Data

2003	# of Accounts	%	kWh Demand	%	Est. Revenues (\$)	%
CARE	39,371	12.24%	159,754,814	11.12%	\$4,259,624.74	7.44%
Non-CARE	282,187	87.76%	1,276,390,066	88.88%	\$52,972,631.54	92.56%
Totals	321,558	100%	1,436,144,880	100%	57,232,256	100%

To summarize, 12% of San Franciscan residential accounts participated in the CARE program, used 11% of total residential demand, and contributed 7.4% of total residential generation revenues in 2003. CCSF requested an update to PG&E's CARE data as well as information regarding estimates of "eligible" CARE customers in San Francisco. According to PG&E, in December 2002 there were an estimated 69,826 eligible residential CARE customers in San Francisco. At that same time there were only 38,637 customers enrolled, a 55% penetration rate. By July of 2004, the number of estimated CARE eligible customers in San Francisco dropped to 66,222 while participation increased to 82% or 54,571 customers. Whereas in 2003 CARE

⁴⁰ The exemption from the surcharge which was enacted during the electricity crisis effectively increases the CARE discount above 20%.

constituted approximately 12% of San Francisco's residential PG&E accounts, by the middle of 2004 that number had increased to roughly 17%.⁴¹

For comparative purposes, at the beginning of 2005, 21% of PG&E's residential customers (including San Francisco) participate in the CARE program. PG&E has a service territory CARE penetration rate of approximately 70% (903,619 participating customers to 1,283,879 estimated eligible customers). With 100% penetration, CARE customers would constitute 30% of PG&E's residential customers and 20% of San Francisco's. Therefore, in contrast to PG&E system average, San Francisco has a relatively low portion of customers either eligible for or participating in the CARE program. However, CARE still represents a significant social policy and ratemaking challenge for a potential CCA in CCSF.

The issue of how to treat CARE customers within the context of CCA is an important issue. There is indication that CARE customers for CCA will be treated similarly to CARE customers that participated in Direct Access. Under Direct Access, energy providers sold their electrical commodity to residential CARE participants at the same rate as they would non-CARE customers. The distribution utility (PG&E) applied the equivalent discount to their portion of the bill. The CPUC identified CARE discounts for CCA customers as an issue that will be addressed in Phase II of the CCA rulemaking proceeding (R.03-10-003).

6.6.1 SF Delinquent Accounts Data

At CCSF's request, PG&E provided data on delinquent and past-due electric energy accounts for customers that receive service in San Francisco. PG&E tracks this data monthly for accounts that are at least \$50 and 60 days past due and eligible for service shut-off pursuant to CPUC Electric Rules 8 and 11.⁴² According to PG&E, delinquent balances on electric energy accounts in San Francisco represent 13% of total delinquencies in the utility's system. This figure is disproportionately high compared to San Francisco's contribution to PG&E's system total number of accounts (approximately 7%) and total electrical energy demand (approximately 5%). PG&E provided CCSF delinquent accounts data that included number of accounts by residential and commercial/industrial customer classes, total number of dollars past-due by the two rate classes by month, and the total amount of past-due dollars that are written off on a monthly basis. This data was provided for a one-year period beginning in September of 2003 and ending in September of 2004. Exhibit VI-9 summarizes the data below.

Exhibit 6-9: Delinquent Balances and Electric Write-Offs in San Francisco 09-2003 to 08-2004⁴³

⁴¹ CCSF estimated this percentage by taking the number of CARE accounts in 2004 as compared to the total number of residential accounts in 2003. For this purpose CCSF made the simplifying assumption that the total number of residential accounts in San Francisco did not grow substantially over that timeframe.

⁴² Electric Rules 8 and 11 are available at PG&E's website: <http://www.pge.com/tariffs/ER.SHTML#ER>

⁴³ Since PG&E does not track electric account delinquencies by billing components (generation, transmission, and distribution), CCSF had to estimate the portion of electric account balances over \$50 and 60 days past due attributable to generation. CCSF did this by first estimating what portion the generation commodity constitutes on the average electric bills for both the

Customer Class Group	Avg Estimated Monthly Electric Generation Revenues (2003)	Sum of \$50 Balances 60 Days Overdue (Gen Portion) - Monthly	Overdue Balances as a % of Gen Revenues	Estimated Monthly Electric Generation Write-Offs	Write-Off as a % of Est. 2003 Generation Revenues
Commercial / Industrial	\$15,860,064	\$1,605,809	10.12%	\$37,673	0.24%
Residential	\$4,769,355	\$822,157	17.24%	\$16,706	0.35%

According to the Exhibit 6-10, the generation portion of electric account balance delinquencies on an annual basis represent 10% of commercial/industrial revenues and 17% of residential revenues. Although these are high percentages of annual revenues for each of these customer groups, PG&E reports that it only writes-off about 0.25-0.35% of annual generation revenues as permanently uncollectible. This indicates that there are a good number of customers that “float” their balances over a couple months but tend to pay their bills eventually.

Exhibit 6-10: Delinquent Accounts and Average Overdue Balances Per Account in San Francisco 09-2003 to 08-2004

Customer Class Group	Total # of Accounts	Avg # of Delinquent Accounts/Month	Delinquent Accounts as % of SF Total	Total \$/Account per Month	Generation \$/Account per Month
Commercial / Industrial	32,252	292	0.905%	\$5,499.35	\$3,099.25
Residential	321,558	1938	0.603%	\$424.23	\$144.16

Exhibit 6-10 shows the average number of accounts in San Francisco that had overdue electric bill balances of at least \$50 for at least 60 days. Delinquent accounts, as a percentage of total accounts of the residential and commercial and industrial customer class groups, is minimal. According to the data provided by PG&E, these delinquent accounts represent less than 1% of the total accounts in each customer class grouping. The exhibit also disaggregates the total monthly balance of overdue accounts into an average account delinquency both by total electric bill and by generation component only. This statistic shows that on a monthly basis the average delinquent residential account was an estimated \$144.16 overdue for the generation portion of the bill only. Considering the average residential generation bill in San Francisco is about \$14.25 per month this is a surprisingly high figure. The average delinquent

Residential and Commercial/Industrial customer groups in San Francisco. Total bill and generation revenues for these classes were determined using rate schedule level kWh and energy demand data and PG&E’s total and generation only rates (demand charges were also calculated for medium commercial, large commercial, and large commercial/industrial customers and converted into a \$/kWh adder). The total delinquent balances by customer group for the 12-month period from September 2003 to August 2004 was multiplied by the percentage of generation as a bill component for the residential (34%) and Commercial/Industrial (56%) customer groups. The same process was performed for calculating the generation portion of electric write-offs for the same 12-month period in San Francisco.

commercial/industrial account is overdue \$3,099.25 for the generation portion monthly. Although this is a much higher figure than is average for residential customers, it is also more in line with what the average customers in this customer class grouping pay on a monthly basis.

Delinquent account and balance information is important to CCSF in assessing CCA for several reasons. First, the CCSF CCA is required by law to *offer* service to all customers in San Francisco, regardless of whether or not they are currently paying their PG&E bills. Second, under the interim CCA service tariff proposed by PG&E, which mirrors “Rule 22” established for Direct Access service, the utility will not disconnect a customer’s service for non-payment of CCA charges. Only non-payment of PG&E charges warrants service disconnection. Moreover, partial payments received by the utility *on delinquent accounts* are applied to the utility’s disconnectable charges first. Under these rules a customer could pay only the PG&E (transmission and distribution) portion of the bill and not be discontinued from electrical service. The CCA’s only recourse in event of customer non-payment of CCA charges is to return that customer to full or “bundled” PG&E service. A better option to equitably handle delinquent or partial payments may include making failure to pay any charges on the bill, after a certain period, “disconnectable,” and applying any partial payments to amounts owed on a pro-rata basis. CCSF will seek to modify these rules in phase II of the current CCA rulemaking proceeding.

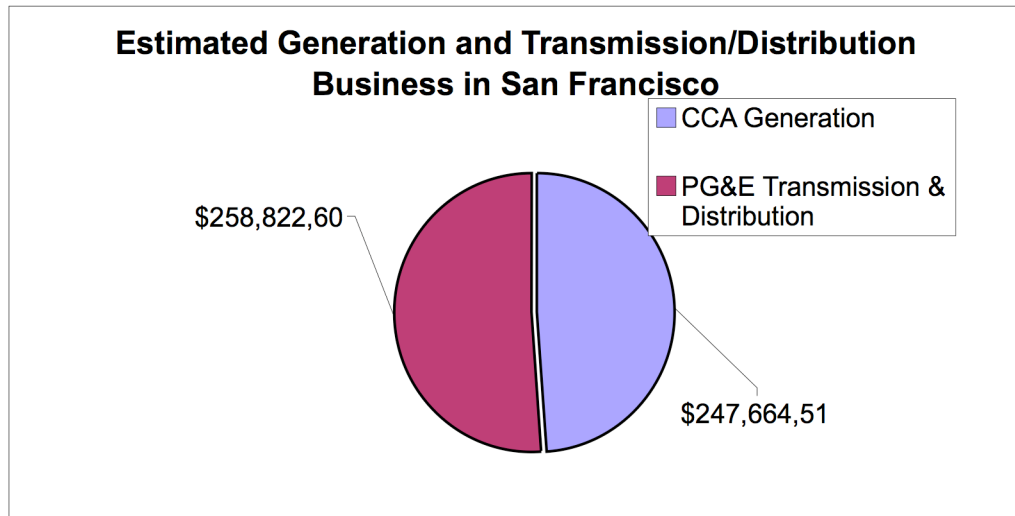
6.7 Generation as a Bill Component

As previously discussed, CCAs provide commodity electrical supply and demand services to their participating customers. Electrons procured on behalf of customers by the CCA are delivered by PG&E on their transmission and distribution system. PG&E continues to charge for electrical delivery services and maintains meter reading and billing functions. This contrasts with full municipalization where the City and County would acquire the local utility’s electrical delivery infrastructure and assume the full gamut of the electricity business in San Francisco including generation procurement, transmission and distribution services, and meter reading, and billing services.

In order to understand the portion of PG&E’s electrical business that CCSF would assume as a CCA it is important to understand the size of PG&E’s electrical energy business in San Francisco in general. Using San Francisco customer characteristics and energy demand as described above as well as PG&E’s fully bundled electric rates and demand charges (for medium and large commercial and industrial customers) the SF PUC estimates PG&E’s annual electrical energy revenues to be approximately \$506,500,000.00 per year. Using a similar approach but only for generation related charges, the SF PUC estimates the potential CCA portion of PG&E’s San Francisco business to be around \$247,000,000.00 per year, or 49% of total annual San Francisco electrical revenues.⁴⁴

⁴⁴ This estimate does not include revenues PG&E earns from DA customers.

**Exhibit 6-11:
Potential San Francisco CCA Generation Business**



Generation revenues in San Francisco can be broken into customer class as shown below in Exhibit 6-12:

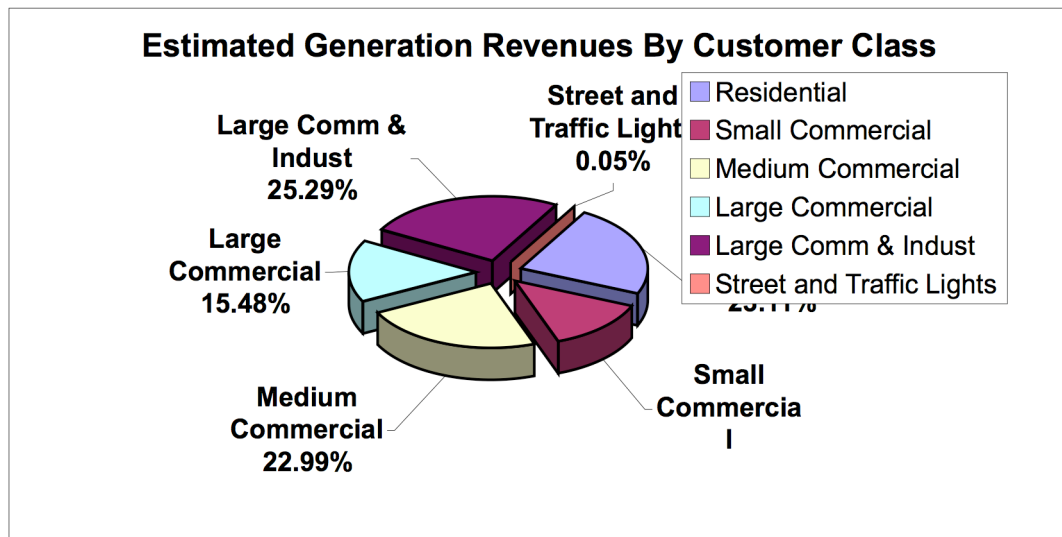


Exhibit 6-12: Estimated Projection of CCA Generation Revenue Proportions by Customer Class⁴⁵

This exhibit reveals that commercial and industrial customers in San Francisco purchase 77% of all energy sold in the City by PG&E. Residential sales represent the remaining 23% of annual generation revenues. Generation as a portion of electric bills varies between customer classes as well.

⁴⁵ To estimate generation revenues by customer class the SF PUC used 2003 data and PG&E’s generation rates as of 01-2005.

**Exhibit 6-13:
Estimated Average Electrical Bills and Generation Component
for Selected Rate Schedules**

Rate Schedule	Description	Est. Avg. Monthly Bill	Est. Avg. Gen. Portion of Monthly Bill	Gen. as a % of Est. Avg. Mo. Bill
E1	Residential	\$43.67	\$14.25	32.63%
EL-1	Res CARE	\$26.27	\$8.79	33.46%
A1	Small Comm.	\$208.27	\$85.76	41.17%
A10	Med Comm.	\$2,316.21	\$1,366.16	58.98%
E19	Lrg Comm.	\$7,406.89	\$4,254.93	57.45%
E20	Lrg C&I	\$88,327.28	\$56,127.89	63.55%

Exhibit 6-13 shows the generation component as a proportion of average total monthly electricity bills by selected rate schedules for each major customer class. As an overall portion of the electric business in San Francisco generation represents approximately 50% of total electric revenues. However, generation as a portion of customers' bills varies significantly across customer classes. For instance, the electricity commodity represents about one-third of the average residential customer's bill, but represents between 59% and 64% of what medium and large commercial and large commercial/industrial customers' pay. Exhibit 6-13 also shows the impact of the CARE discount on residential bills and generation costs per account. In summary, customer load mix will impact the CCA's rates. At this time, PG&E's rates reflect that a higher percentage of commercial customers will push the average generation rate that we need to meet or beat up. This trend could change, however, depending on how PG&E's rates change going forward. In Phase II of their current General Rate Case (GRC, Application 04-06-024), PG&E is arguing to shift revenue allocation from commercial and industrial customers to residential customers to reflect the cost to serve those customers. Due to both their high consumption per customer and their generally higher rates, a high percentage of commercial and industrial customer participation will improve the general outlook for CCA in San Francisco.