

## CALCULATING BASELINE FOR NET ENERGY METERING (NEM) ACCOUNTS

PG&E's residential rate schedules include baseline allowances. The language found in the tariff sheet is designed to determine the appropriate amount to charge or credit energy given the impact of baseline allowance on rates within each time-of-use period. Note that all values are as measured at the customer's bi-directional meter.

Definitions used: "generation" is energy that flows to the grid through the customer's bi-directional meter, and "usage" is energy that flows from the grid to the customer through the customer's bi-directional meter. The "billing period" is the time (about one month) between meter read dates.

The following is a step-by-step process (with an example using numbers) to illustrate how to determine baseline allowances amongst time-of-use periods:

A. First, add the algebraic sum of usage and generation in all TOU periods for the billing period. The absolute value of this is the total net usage /generation.

Example: Say the customer has the following generation/usage: peak period = generation of 600 kWh; part peak = usage of 200 kWh; off-peak = usage of 100 kWh. Adding the three values yields:  $-600 + 200 + 100 = -300$ . Therefore, there is a total net generation of 300 kWh.

B. Next, determine the percentage of baseline allocation for each TOU period by dividing the usage/generation in each time period by the total net usage /generation. (If total net usage is 0, stop here and compute the entire bill in Tier 1.)

Example:

Peak percentage =  $-600/300 = -200\%$

Part-peak percentage =  $200/300 = 66.7\%$

Off-peak percentage =  $100/300 = 33.3\%$

(Note that these add to either 100% or -100%)

C. Now, multiply the total baseline allocation for the billing period (as determined by the customer's rate schedule) by the percentage for each TOU period to get the baseline kWh for that period.

Example: If the baseline for the billing period is 250 kWh, then

Peak baseline =  $250 * -200\% = -500$  kWh

Part-peak baseline =  $250 * 66.7\% = 166.75$  kWh

Off-peak baseline =  $250 * 33.3\% = 83.25$  kWh

(Note these add back to 250 kWh.)

D. Finally, allocate the usage for each TOU period into tiers using the baseline for that TOU period.

Example: Peak generation was 600 kWh, so 500 kWh is in Tier 1 (100% of baseline) and the remaining 100 kWh in Tier 2 (100 - 130% of baseline). Do similarly for part and off peak. Note that the top tier is the same for all TOU periods.

Calculating baseline usage for retail customers on Time-of-Use, TOU:

The customer uses 2000 kWh from 5/1 to 6/1.

The ratio of the TOU period usage to the total usage needs to be determined:

	ON	Part	Off Peak	Total
	300	700	1000	2000
Ratio	0.15	0.35	.50	

To get the ratio, divide the TOU period usage by the total usage, i.e., for On-peak usage in this example  $300/2000 = .15$

Calculate the total baseline allowance, by using the appropriate daily allowance times the number of days in the billing period. (If the billing crosses over seasons, calculate the baseline allowance for the number of days in each season.)

Once the baseline has been determined, calculate the tiers and apply the ratio of each TOU period to the usage in each tier:

Billing Period 5/1 to 6/1/2006	Total Usage	Peak	Part Peak	Off-Peak
31 days		0.15	0.35	0.5
Baseline 12.2 per day X 31 days =	378.2	56.73	132.37	189.1
101-130% of baseline	113.46	17.019	39.711	56.73
131-200% of baseline	378.2	56.73	132.37	189.1
201-300% of baseline	756.4	113.46	264.74	378.2
over 300% of baseline	373.74	56.061	130.809	186.87
Total Usage	2000			

Once the usage for each tier in each time of use period has been determined, the charges can be calculated by multiplying the rate times the usage in each tier.