

Contract Demand Quantity (CDQ)

CDQs are monthly kilowatt (kW) amounts that are one of the subtractions from measured Customer System Peak (CSP) loads to determine the Power Demand Charge Billing Determinants.

CDQs will be:

- used in billing of demand for load following customers, only
- documented in Exhibit B of each CHWM Contract
- unchanged for the contract term, with limited exceptions

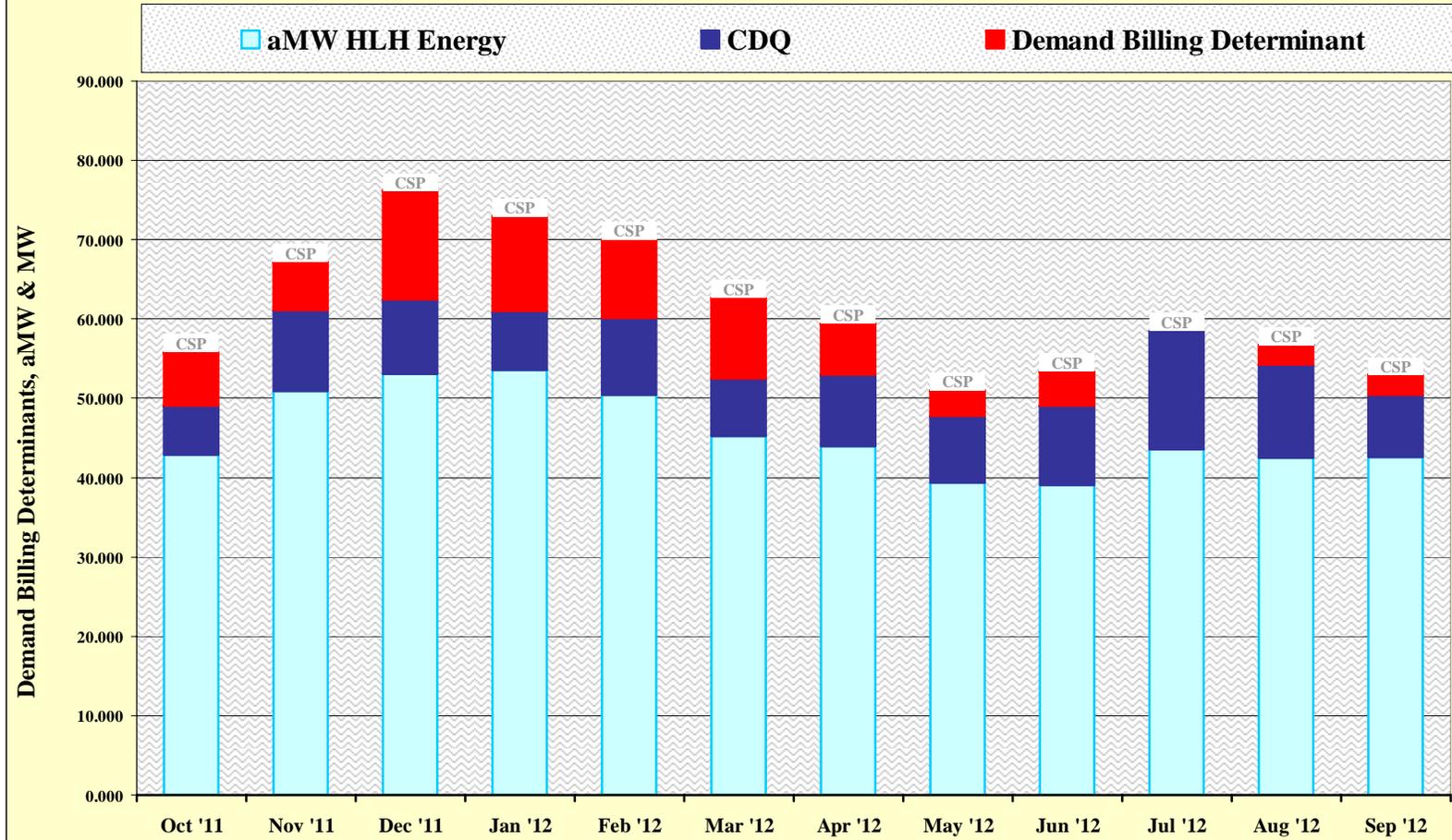
Estimated monthly CDQs are calculated by applying FY05 – FY07 HLH load factors to the FY10 average adjusted monthly HLH Loads

- Load factors and FY10 loads both are net of Exhibit A HLH Existing Resources



Example Application of CDQ

Demand Billing Determinants Customer



HLH Load Factors

The HLH load factors for each month were calculated by:

- Averaging the same month average HLH (aHLH) total retail load (TRL) for FY05 – FY07, less Existing Resources (CHWM Exhibit A Resources for FY12)
- Averaging the same month CSPs for FY05 – FY07
- Dividing the 3-year average of aHLH (in kW) by the 3-year average of Contract CSP (in kW) for each month
 - Example: $(\text{Jan 05 aHLH} + \text{Jan 06 aHLH} + \text{Jan 07 aHLH}) / (\text{Jan 05 CSP} + \text{Jan 06 CSP} + \text{Jan 07 CSP}) = \text{January HLH Load Factor}$

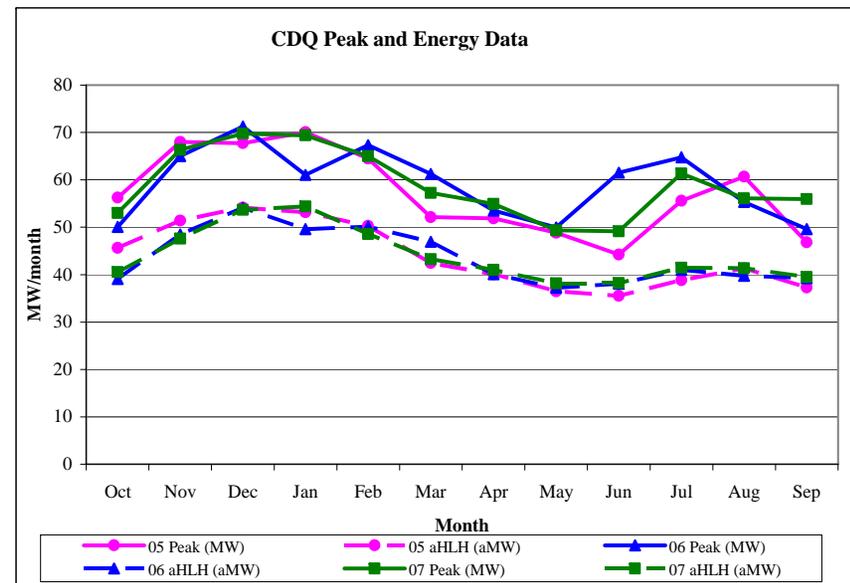
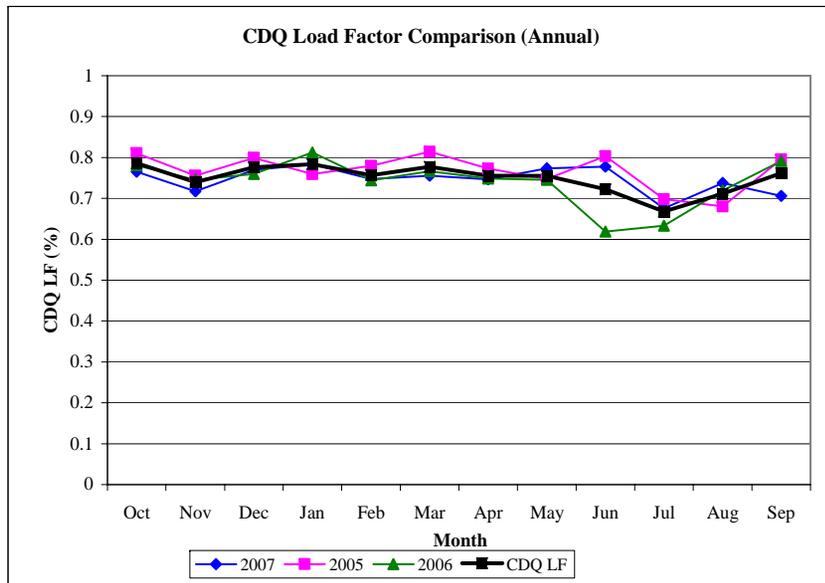
Each monthly HLH load factor then was divided by 91% yielding Adjusted HLH Load Factors. (TRM Section 5.3.5.1.)



Example Load Factor Calculation

	Fiscal Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Peak (MW)	2005	56.267	68.008	67.740	70.046	64.486	52.126	51.875	48.847	44.241	55.585	60.700	46.839
aHLH (aMW)	2005	45.618	51.401	54.159	53.182	50.289	42.440	40.096	36.495	35.546	38.828	41.295	37.282
CDQ %	2005	81.07%	75.58%	79.95%	75.92%	77.98%	81.42%	77.29%	74.71%	80.35%	69.85%	68.03%	79.59%
Peak	2006	50.080	64.994	71.230	61.038	67.324	61.244	53.542	49.965	61.519	64.761	55.308	49.624
HLH	2006	39.106	48.466	54.110	49.596	50.131	46.942	40.088	37.248	38.071	41.013	39.781	39.267
CDQ %	2006	78.09%	74.57%	75.97%	81.25%	74.46%	76.65%	74.87%	74.55%	61.88%	63.33%	71.93%	79.13%
Peak	2007	53.022	66.358	69.761	69.395	65.019	57.244	54.898	49.344	49.132	61.344	56.098	55.949
HLH	2007	40.559	47.610	53.671	54.404	48.598	43.258	40.980	38.161	38.228	41.447	41.383	39.511
CDQ %	2007	76.50%	71.75%	76.94%	78.40%	74.74%	75.57%	74.65%	77.34%	77.81%	67.57%	73.77%	70.62%

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CDQ %	CDQ LF	78.61%	73.98%	77.58%	78.40%	75.71%	77.74%	75.58%	75.53%	72.21%	66.76%	71.15%	76.15%
Resources Assumed (aMW)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Monthly CDQ Calculation

Monthly Estimated CDQs are calculated using:

- Adjusted measured FY10 monthly TRL
 - HLH energy, in akW
 - Weather and irrigation-normalized
 - Less Existing Resources from Exhibit A
- Adjusted HLH Load Factors
 - Monthly
 - From FY05 – FY07
 - Divided by 91%

These estimated CDQs are subjected to tests, before finalized.



Example CDQ Calculation

Estimated CDQ Calculation

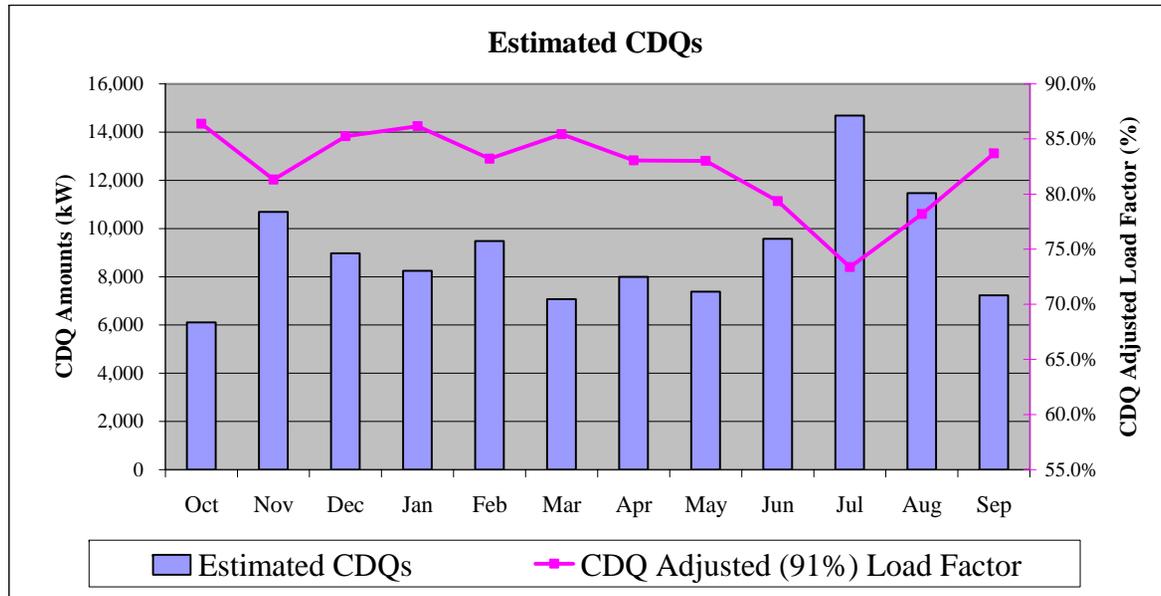
Customer Name
BES Number

Customer
XXXXXX

Line:		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1. adj HLH (kWh)	FY10	16,734,834	17,848,589	21,567,626	20,515,628	18,041,609	17,901,224	16,305,397	14,407,937	15,306,208	16,825,106	17,103,841	14,828,357
2. "Existing Resources" (akW)	FY12	0	0	0	0	0	0	0	0	0	0	0	0
3. adj net aHLH (akW)		38,738	46,481	51,845	51,289	46,983	41,438	39,196	36,020	36,794	40,445	41,115	37,071
4. CDQ LF		78.61%	73.98%	77.58%	78.40%	75.71%	77.74%	75.58%	75.53%	72.21%	66.76%	71.15%	76.15%
5. CDQ adj LF		86.38%	81.30%	85.25%	86.15%	83.20%	85.43%	83.05%	83.00%	79.35%	73.36%	78.19%	83.68%
6. CDQ amounts (kW)		6,108	10,691	8,970	8,246	9,487	7,067	8,000	7,378	9,575	14,687	11,468	7,230
FY10 HLH hours		432	384	416	400	384	432	416	400	416	416	416	400

Line Notes:

- Actual FY2010 HLH weather-normalized energy (also includes adjustments for irrigation normalization) = kWh loads for Hours Ending 0700 - 2200, Mon -Sat, except NERC Holidays
- "Existing Resources" = customer's TRM Attachment C Resources, Exhibit A HLH amounts for FY2012 (in akW)
- $aHLH_{2010}$ = average HLH weather-adjusted Measured FY2010 loads less Resources (in akW)
- LoadFactor = (average of FY05 - FY07 HLH load factors)
- adjLoadFac = (average of FY05 - FY07 HLH load factors) divided by 0.91
- $CDQ = (aHLH_{2010} \text{ divided by adjLoadFac}) \text{ minus } aHLH_{2010}$



Monthly CDQ Tests

(using FY10 Actuals)

Before finalized, CDQs are tested using the customer's actual FY10 monthly data, and the Demand Charge Billing Determinants that would have resulted from those data. (TRM Section 5.3.5.2)

Monthly Billing Determinant = actual FY10 CSP (less Exhibit A Existing Resources), less actual FY10 average HLH energy purchase, less CDQ

The tests determine if the Billing Determinant for each month of FY10 would have been either:

- Less than zero (CDQ 'headroom'), or
- Exceeding two times the average of all customers' Billing Determinants, as a percent of CSP

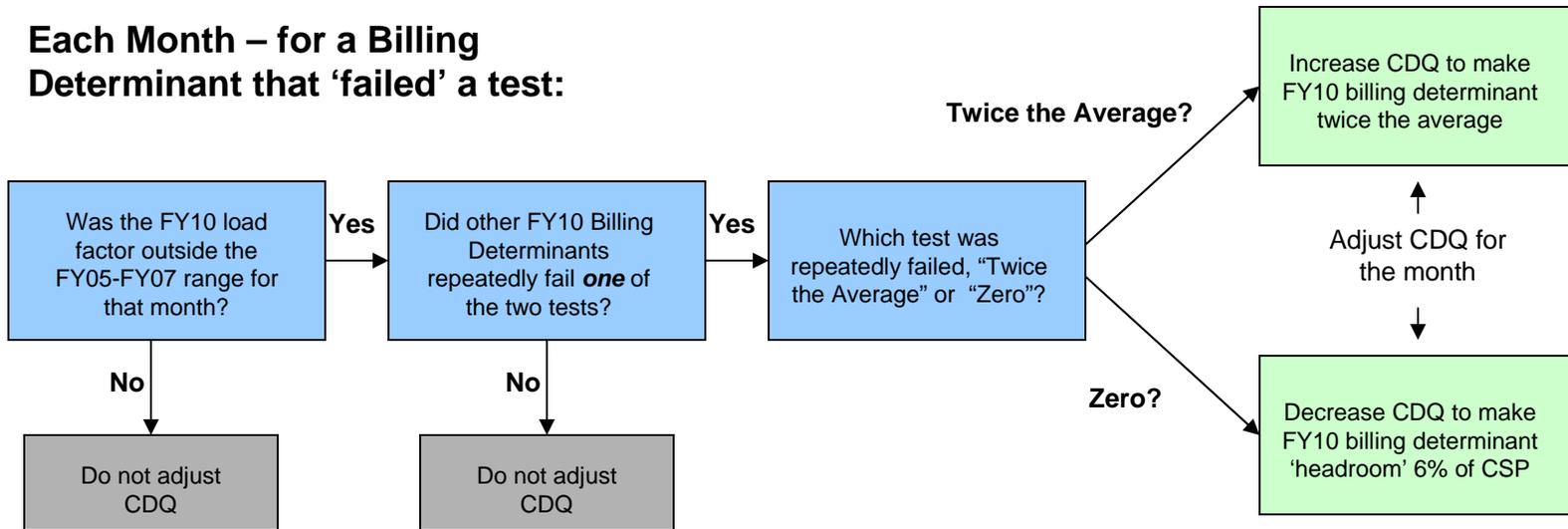
If the Billing Determinant exceeds ('fails') either test, CDQ for that month ***may be*** adjusted.



Filtering FY10 Test Results

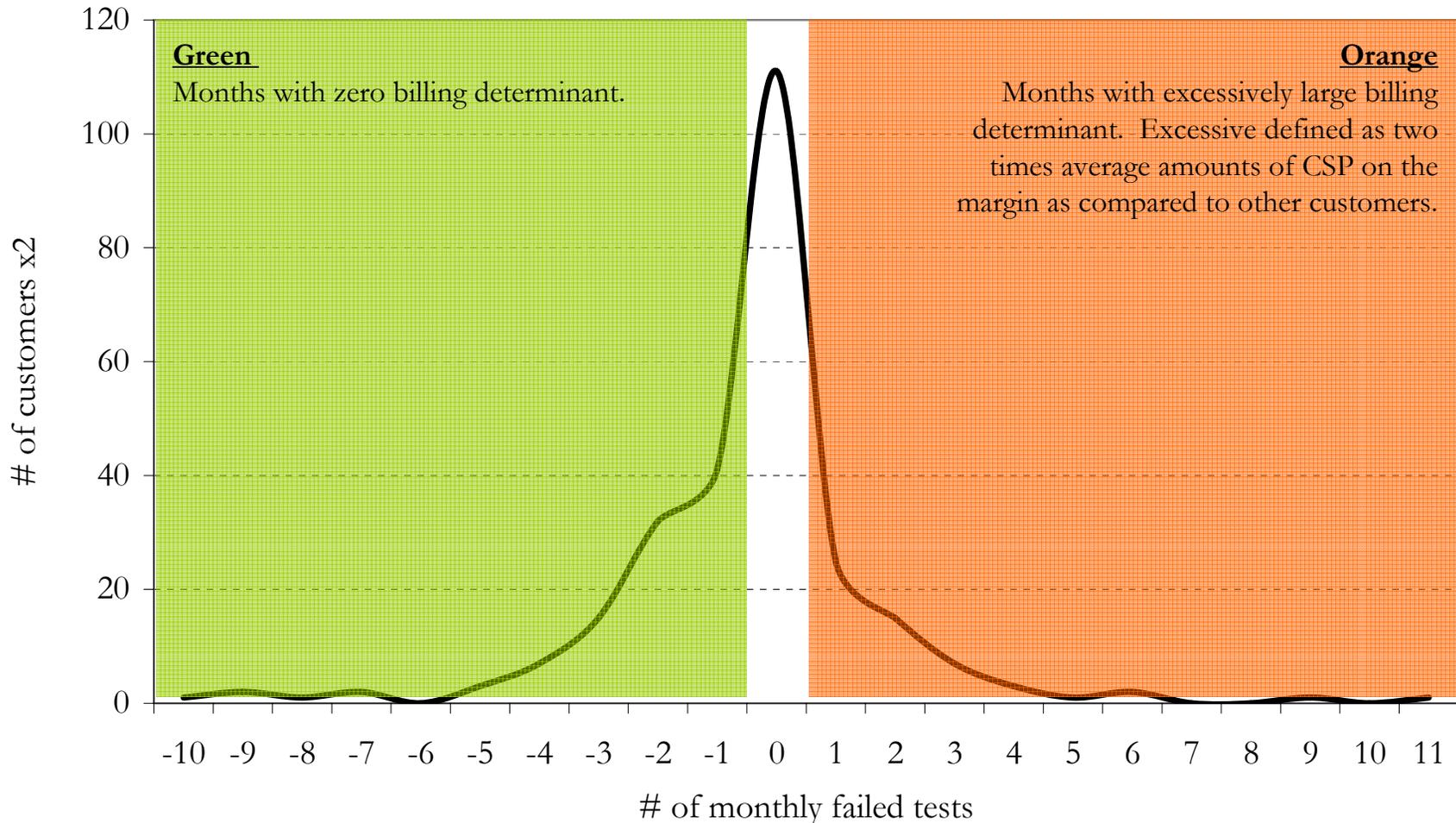
(for 'failed' FY10 Monthly Billing Determinant Tests)

Each Month – for a Billing Determinant that 'failed' a test:



CDQ Test Results

Frequency of Failed CDQ Test with no Filters



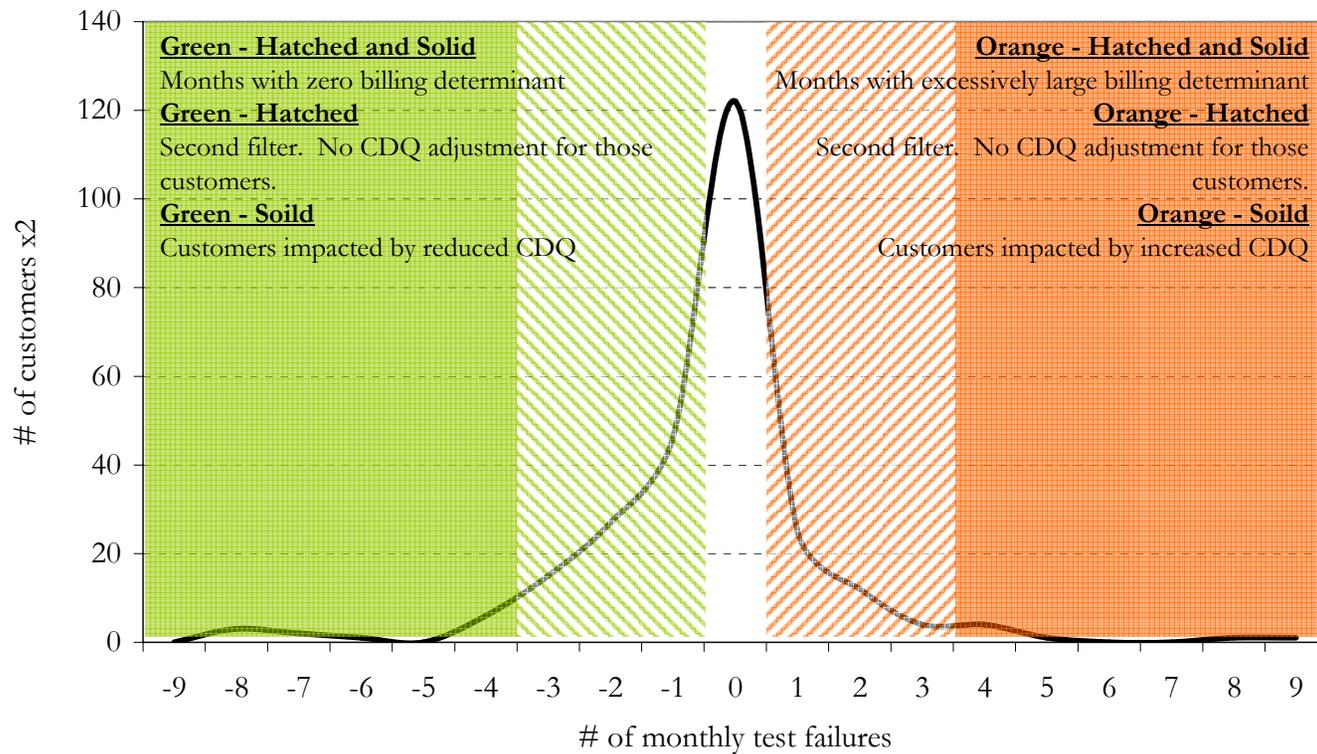
	# of monthly failed tests																					
Customers	1	2	1	2	0	3	7	15	32	41	111	25	15	7	3	1	2	0	0	1	0	1
# of Failed Tests	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11



Filtered CDQ Tests

	Sum (kW)	Positive (kW)	Negative (kW)
Total	142,200	158,891	(16,691)
Load Following	87,641	104,332	(16,691)
Slice/Block	54,559	54,559	-

Frequency of Failed CDQ Test after First Filter Applied
 (First filter removes failed months when 2010 HLH LF is within FY2005-07 HLH LF range)



- Increase (Orange/Bottom Half) or Decrease (Green/Top Half) CDQ
- CONSOLIDATED
 - SALMON RIVER
 - USDOE ARC
 - NO WASCO PUD
 - TANNER
 - MINIDOKA
 - OKANOGAN PUD
 - WASCO
 - ASOTIN
 - COLUMBIA RIVER PUD
 - EMERALD
 - MCCLEARY
 - MCMINNVILLE

Customers	0	3	2	1	0	6	15	27	46	122	25	12	4	4	1	0	0	1	1
# of Failed Tests	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9

