

GULF POWER COMPANY  
Cost of Service Load Research Plan  
2015

July 2014

INTRODUCTION

The purpose of this load research plan is to ensure compliance with the Cost of Service Load Research Rule 25-6.0437, Florida Administrative Code, (referred to as the Rule).

This rule requires that all subject utilities shall provide for load research sampling of all rate classes that account for more than one percent of their annual retail sales and that the sampling plan shall be designed to provide estimates of the summer and winter peak demand by class and the averages of the twelve monthly coincident peaks for each class within plus or minus 10 percent relative accuracy at the 90 percent confidence level. The Rule was amended January 6, 2004, to change the requirement for Rate GS: "The sampling plan shall be designed to provide estimates of the summer and winter peak demands for the General Service Non-Demand rate class within plus or minus 15 percent at the 90 percent confidence interval." The Rule also states that each subject utility shall submit a revised sampling plan to the Commission no less than every three years.

Provided in Table 1 are Gulf Power's rate classes subject to this rule and their 2013 energy relationship to the total retail energy sales. As shown on this table, rate classes RS, RSVP, GS, GSD, LP, LPT, RTP and CIS meet the Rule's threshold which causes them to be included in the Cost of Service Load Research Plan. Also included in Gulf's Plan is SBS.

**TABLE 1**

GULF POWER COMPANY  
 Energy By Rate

<u>Rate</u>	2013 <u>MWh</u>	% of <u>Total Energy</u>
RS	4,873,692	45.98%
RSVP	191,374	1.81%
GS	260,822	2.46%
GSD/GSDT/GS-TOU	2,533,597	23.90%
LP	458,486	4.33%
LPT	630,739	5.95%
RTP	1,369,779	12.92%
OS-I/II	104,300	0.98%
OS-III	44,474	0.42%
SBS	7,675	0.07%
CIS	124,252	1.17%
TOTAL RETAIL (1)	10,599,189	100.00%

(1) Excludes unbilled, company use and losses.

PREVIOUS SAMPLE DESIGN PLAN

The 2012 Load Research Study used the combined ratio estimator methodology for sample size estimates in all rate classes. Sample points were allocated to the various strata using the Neyman allocation procedure. Provided in Table 2 is a summary of the 2012 sample size for each of the applicable rate classes and the strata allocation variable with the strata limits.

The RS rate class, which represents approximately 46 percent of the total Company's annual kWh retail sales, was prestratified into five strata based on housing type and winter peak month usage. The break points were 1,150 and 1,950 kWh for single family detached.

The RSVP rate class, which represents approximately 2 percent of the total Company's annual kWh retail sales, was prestratified into three strata based on the three RS single family detached strata. The break points were 1,150 and 1,950 kWh.

The GS rate class sample design was prestratified by kWh into four strata based on winter peak month usage with break points at 700, 1,400, and 2,500 kWh. The GS class accounts for only 2.5 percent of the Company's annual kWh retail sales.

The GSD rate class, accounting for 24 percent of the Company's annual kWh retail sales, was prestratified on the winter peak month kW demand with strata break points of 20 kW, 50 kW and 150 kW.

The LP rate class was divided into primary and secondary voltage customers. The secondary voltage customers were prestratified into two groups. The first stratum contained a random sampling of 30 customers out of the total group of customers whose billing demand during January was lower than 500 kW. The second stratum was all

customers whose billing demand was 500 kW or higher. The primary voltage customers were census metered. The LP rate class accounts for 4.4 percent of the Company's annual kWh retail sales.

The LPT rate class was divided into primary and secondary voltage customers. The secondary voltage group contained a random sampling of 30 customers. The second group was a census of all customers served at primary voltage. The LPT rate class accounts for approximately 6 percent of the Company's annual kWh retail sales.

The SBS rate class customers, the RTP rate class customers, and the CIS customers were already 100 percent interval metered, thus they required no sample design.

#### PREVIOUS STUDY ACCURACY

The relative accuracy of the 2012 load research data is provided in Table 3. The results obtained in this study were used in the design of the 2015 Load Research Study. All rate classes achieved better accuracy than required by the rule.

**Table 2**

GULF POWER COMPANY  
 2012 Cost of Service Load Research Rule Sample Size

<u>Rate</u>	<u>Strata Allocation</u>	<u>Sample Size</u>
RS	1) Multifamily	67
	2) Mobile Home	25
	3) SFD 0-1150 kWh	46
	4) SFD 1150-1950 kWh	45
	5) SFD 1950 kWh and greater	42
	TOTAL	225
RSVP	1) SFD 0-1150 kWh	33
	2) SFD 1150-1950 kWh	91
	3) SFD 1950 kWh and greater	101
	TOTAL	225
GS	1) 0-700 kWh	68
	2) 700-1400 kWh	77
	3) 1400-2500 kWh	77
	4) 2500 kWh and greater	76
	CENSUS *	2
TOTAL	300	
GSD	1) 0-20.0 kW	20
	2) 20.1-50.0 kW	39
	3) 50.1-150.0 kW	54
	4) 150.0 kW and greater	36
	CENSUS *	26
TOTAL	175	
LP	1) 0-500.0 kW	30
	2) 500 kW and greater	33
	CENSUS *	18
TOTAL	81	
LPT	1) Secondary Voltage Level	30
	CENSUS *	21
TOTAL	51	
RTP	1) All customers (census)	28
SBS	1) All customers (census)	3
CIS	1) All customers (census)	1
TOTAL		1,089

\* These are primary or transmission voltage level customers.

**Table 3**

GULF POWER COMPANY  
 Load Research Data  
January, 2012 to December, 2012

RATE CLASS RS			RATE CLASS RSVP		
<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>	<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>
Winter Peak	1,152,969	9.74%	Winter Peak	31,515	8.23%
Summer Peak	1,114,169	4.59%	Summer Peak	35,807	4.37%
12 Month Avg.	974,021	2.92%	12 Month Avg.	30,609	2.94%

RATE CLASS GS			RATE CLASS GSD		
<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>	<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>
Winter Peak	39,218	11.41%	Winter Peak	312,423	9.50%
Summer Peak	62,477	7.29%	Summer Peak	468,973	5.07%
12 Month Avg.	45,424	4.88%	12 Month Avg.	384,137	4.04%

RATE CLASS LP			RATE CLASS LPT		
<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>	<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>
Winter Peak	59,001	5.86%	Winter Peak	123,618	2.79%
Summer Peak	86,764	5.03%	Summer Peak	138,249	2.43%
12 Month Avg.	72,521	3.34%	12 Month Avg.	115,969	3.94%

RATE CLASS RTP			RATE CLASS SBS		
<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>	<u>2012</u>	<u>Estimated</u> <u>CPKW</u>	<u>Relative</u> <u>Accuracy</u>
Winter Peak	139,430	0.00%	Winter Peak	0	0.00%
Summer Peak	162,998	0.00%	Summer Peak	507	0.00%
12 Month Avg.	155,046	0.00%	12 Month Avg.	581	0.00%

2015 SAMPLE DESIGN PLAN

The 2015 sample design plan uses data collected from the 2012 Load Research Study as required by the Cost of Service Load Research Rule, which states that "...any new or revised plan shall be developed using data from the utility's most current load research to determine the required sampling plan to achieve the precision required...".

The 2015 sample plan includes all primary and transmission voltage level customers. These customers will be treated as a separate population for each rate class. In addition, where applicable, commercial and industrial customers will be treated as separate populations. For secondary voltage level customers, the combined ratio estimator methodology was used for the sample size estimates for this 2015 sample plan. The formulas for this plan using this method are provided in Table 4. The definitions for the variables for these formulas are provided in Table 5. Stratified random sampling was used within each rate class, except those rate classes which were census-metered, to achieve better accuracy with fewer sample points. The actual calculations for each rate class, which provide sample size determinations based on the Neyman allocation methods, are provided in the description of each rate class within this study plan.

In all rate classes where census metering is not applicable, a new sample will be drawn from the existing population and interval recording will be deployed at those premises. To calculate the total rate class data, the CPKW estimates and variance for each group will



be summed together and then a new standard deviation will be calculated along with a new relative accuracy.

A summary of strata allocation and sample size for all rate classes is shown in Table 10.

**TABLE 4**

GULF POWER COMPANY  
Formulas for Sample Plan

I. Sample Size Estimates Using Combined Ratio Estimator:

$$n = \frac{\left[ \sum_{h=1}^L W_h \sqrt{F_h} \right]^2}{\left[ \frac{D \left( \frac{\hat{T}_y}{N} \right)}{1.65} \right]^2 + \frac{1}{N} \sum_{h=1}^L W_h F_h}$$

$$F_h = S_{yh}^2 + \left( \hat{R}^2 * S_{xh}^2 \right) - 2 \hat{R} r_h * S_{yh} * S_{xh}$$

$$\hat{T}_y = \hat{R} * T_x$$

$$\hat{R} = \frac{\sum_{h=1}^L W_h \bar{y}_h}{\sum_{h=1}^L W_h \bar{x}_h}$$

II. Neyman Allocation of Sample Points to Strata:

$$n_h = \frac{W_h S_{yh}}{\sum_{h=1}^L W_h S_{yh}} * n$$

**TABLE 5**

GULF POWER COMPANY  
Definitions for Formulas

$n$	=	Sample Size Estimate
$n_h$	=	Stratum Sample Size
$W_h$	=	Stratum Weight
$D$	=	Percent Relative Accuracy (0.1 or 0.15 for Rate GS)
$\hat{T}_y$	=	Estimated Population CPKW
$N$	=	Population Number of Customers
$\hat{R}$	=	Ratio Estimator
$T_x$	=	Population kWh
$\bar{Y}_h$	=	Stratum Average CPKW
$S_{yh}$	=	Stratum Standard Deviation of CPKW
$\bar{x}_h$	=	Stratum Average Monthly kWh
$S_{xh}$	=	Stratum Standard Deviation of Monthly kWh
$r_h$	=	Stratum Correlation Coefficient between CPKW & Monthly kWh

Subscripts

$h$	=	Stratum number
$y$	=	CPKW variable
$x$	=	Monthly kWh variable

RESIDENTIAL SERVICE (RS) RATE CLASS

The 2012 RS rate class study used a two-way sample design that incorporated a primary stratification variable of housing type and a secondary stratification variable of kWh for single-family detached only. The 2015 RS rate class study will keep the 2012 design. The two breakpoints for single family detached will be 1,150 kWh and 1,950 kWh.

The Neyman allocation of sample to strata for the 2015 study is as follows:

<u>STR</u>	PRIMARY	SECONDARY	WINTER		
	STRATA	STRATA	WSTD	MIN	2015
	<u>DESCRIPTION</u>	<u>DESCRIPTION</u>	<u>CPKW</u>	<u>n</u>	<u>INSTALLED n</u>
1	Multifamily		0.55	36	45
2	Mobile Home		0.16	10	13
3	Single Family Detached	0 to 1150 kWh	0.46	30	37
4	Single Family Detached	1151-1950 kWh	0.59	38	48
5	Single Family Detached	1951 kWh and greater	0.71	<u>46</u>	<u>57</u>
			2.46	160	200

Additional data and study design calculations for this rate class are provided in Table 6.

**TABLE 6**

RATE 'RS', 'FLRS'  
 ONE-WAY STRATIFICATION ON 01/2014 KWH  
 FIVE STRATA WITH 10% RELATIVE ACCURACY

02/2012 PEAK

STRATUM	WEIGHT	S.S.	]=====CPKW DATA=====]				]=====KWH DATA=====]				(F)	CORR.
			AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD		
MF	0.295861	77	1.82	0.54	1.84	0.55	636.21	188.23	404.00	119.53	0.45	0.556543
MOBILE	0.077890	103	2.84	0.22	2.02	0.16	1026.61	79.96	341.81	26.62	0.15	0.355898
SF-LE1150	0.221288	78	2.10	0.46	2.08	0.46	722.53	159.89	318.79	70.54	0.38	0.573539
SF-1150*1950	0.200624	93	4.14	0.83	2.92	0.59	1516.86	304.32	227.90	45.72	0.57	0.274793
SF-GE1950	0.204337	25	5.58	1.14	3.45	0.71	2345.48	479.27	397.13	81.15	0.71	0.118566

=====

TOTAL				3.20		2.46			1211.67		2.26	
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RATIO R\_HAT = 0.00264  
 POP. # CUST.:370150 POP. ENERGY : 474080826  
 POP. CPKW : 1250780 POP. KW/CUST.: 3.38

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 MEAN PER UNIT SAMPLE SIZE ESTIMATE = 159.65  
 RATIO METHOD SAMPLE SIZE ESTIMATE = 121.51

08/2012 PEAK

STRATUM	WEIGHT	S.S.	]=====CPKW DATA=====]				]=====KWH DATA=====]				(F)	CORR.
			AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD		
MF	0.295861	84	2.27	0.67	1.56	0.46	1114.99	329.88	580.11	171.63	0.32	0.724965
MOBILE	0.077890	99	3.40	0.27	1.70	0.13	1645.59	128.17	600.83	46.80	0.11	0.589606
SF-LE1150	0.221288	37	1.97	0.44	1.09	0.24	806.57	178.48	347.89	76.98	0.17	0.694208
SF-1150*1950	0.200624	68	3.47	0.70	1.32	0.27	1558.25	312.62	219.59	44.05	0.24	0.388651
SF-GE1950	0.204337	91	5.72	1.17	2.08	0.42	2849.86	582.33	716.60	146.43	0.35	0.572534

=====

TOTAL				3.24		1.53			1531.49		1.20	
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RATIO R\_HAT = 0.00211  
 POP. # CUST.:368959 POP. ENERGY : 533207498  
 POP. CPKW : 1127721 POP. KW/CUST.: 3.06

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 MEAN PER UNIT SAMPLE SIZE ESTIMATE = 60.06  
 RATIO METHOD SAMPLE SIZE ESTIMATE = 41.82

RESIDENTIAL SERVICE VARIABLE PRICING (RSVP) RATE CLASS

The 2015 RSVP rate class study uses a design similar to that for the Single family strata (strata 3-5) in the rate RS sample. The two breakpoints for rate RSVP will be 1,150 kWh and 1,950 kWh.

The Neyman allocation of sample to strata for the 2015 study is as follows:

<u>STR</u>	<u>PRIMARY</u>	<u>SECONDARY</u>	<u>WINTER</u>		<u>2015</u> <u>INSTALLED n</u>
	<u>STRATA</u> <u>DESCRIPTION</u>	<u>STRATA</u> <u>DESCRIPTION</u>	<u>WSTD</u> <u>CPKW</u>	<u>MIN</u> <u>n</u>	
1	Single Family Detached	0 to 1150 kWh	0.5700	24	43
2	Single Family Detached	1151-1950 kWh	1.1600	49	88
3	Single Family Detached	1951 kWh and greater	0.9200	<u>39</u>	<u>69</u>
			2.65	112	200

Additional data and study design calculations for this rate class are provided in Table 7.

**TABLE 7**

```
*****;
*   STRATUM 1:   0-1150   KWH   ;
*   STRATUM 2: 1151-1950 KWH   ;
*   STRATUM 3: 1951-UP   KWH   ;
*****;
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RATE CLASS RSVP(exclude F & above)  
 STRATIFIED ON 01/2014 KWH  
 THREE STRATA WITH 10% RELATIVE ACCURACY  
 ALL ITERATION

		MONTH 201202		UPPER STRATA LIMITS				1150	1950			
		=====CPKW DATA=====						=====KW DATA=====				
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.320987	98	2.17	0.70	1.78	0.57	830.79	266.67	216.94	69.64	0.53	0.399580
2	.398556	94	4.28	1.71	2.92	1.16	1489.87	593.80	225.67	89.94	1.14	0.211147
3	.280457	23	5.29	1.48	3.28	0.92	2314.09	649.00	358.58	100.57	0.98	-.120141
=====		=====		=====		=====		=====		=====		=====
TOTAL				3.89		2.65		1509.4709529			2.65	

RATIO R\_HAT = 0.00257  
 POP. # CUST.: 12799      POP. ENERGY : 20531203  
 POP. CPKW : 52844      POP. KW/CUST.: 4.13

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 111.28  
 mean per unit sample size = 126.26

		MONTH 201208		UPPER STRATA LIMITS				1150	1950			
		=====CPKW DATA=====						=====KW DATA=====				
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.217306	27	2.15	0.47	1.03	0.22	927.74	201.60	170.24	37.00	0.19	0.542124
2	.435322	79	3.40	1.48	1.46	0.64	1577.75	686.83	217.88	94.85	0.58	0.419688
3	.347371	92	5.28	1.83	1.95	0.68	2683.03	932.01	660.87	229.57	0.59	0.528083
=====		=====		=====		=====		=====		=====		=====
TOTAL				3.78		1.54		1820.4407552			1.36	

RATIO R\_HAT = 0.00208  
 POP. # CUST.: 11204      POP. ENERGY : 21330517  
 POP. CPKW : 44330      POP. KW/CUST.: 3.96

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 32.13  
 mean per unit sample size = 44.75

GENERAL SERVICE NON-DEMAND (GS) RATE CLASS

The 2012 GS rate class study contained a total of 300 sample points stratified on winter peak month energy with strata break points at 700, 1400, and 2500 kWh. The resulting accuracy met the target accuracy of 15 percent at the 90 percent confidence level during both winter and summer peaks. Since the target accuracy was met, the basic sample design will be kept for 2015 with minor changes in the breakpoints for the secondary voltage level customers. The 2015 GS rate class is prestratified into four strata with breakpoints at 600, 1,400, and 2,300 kWh of the average of January and February energy. Primary voltage level customers and industrial class customers will have interval recorders and will be treated as a separate group from the secondary voltage level customers. There are two primary voltage level and 18 industrial class customers in the GS rate class.

Shown on the next page is the Neyman allocation of sample to strata for the 2015 study.



<u>STR</u>	<u>STRATA</u> <u>DESCRIPTION</u>	<u>WINTER</u>		
		<u>WSTD</u> <u>CPKW</u>	<u>MIN</u> <u>n</u>	<u>2015</u> <u>INSTALLED n</u>
1	0-600 kWh	0.50	27	53
2	601-1400 kWh	0.53	28	57
3	1401-2300 kWh	0.44	24	47
4	2301 kWh and greater	0.40	21	43
	CENSUS *		<u>20</u>	<u>20</u>
		1.87	120	220

\* These are primary voltage level or industrial class customers.

Additional data and study design calculations for this rate class are provided in Table 8.

**TABLE 8**

```
*****;
* STRATUM 1: 0 -600 KWH ;
* STRATUM 2: 601 -1400 KWH ;
* STRATUM 3: 1401-2300 KWH ;
* STRATUM 4: 2301-UP KWH ;
*****;
```

RATE 03 GS(exclude F & above)  
 STRATIFIED ON AVERAGE OF 01/2014 KWH and 02/2014 KWH  
 FOUR STRATA WITH 15% RELATIVE ACCURACY  
 ALL ITERATION

		MONTH 201201		UPPER STRATA LIMITS				600		1400		2300	
		=====CPKW DATA=====						=====KW DATA=====					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.	
1	.543989	54	0.45	0.24	0.92	0.50	228.17	124.12	195.22	106.20	0.42	0.524877	
2	.238245	74	2.50	0.60	2.21	0.53	960.14	228.75	219.00	52.18	0.50	0.352838	
3	.136130	45	3.89	0.53	3.23	0.44	1757.22	239.21	253.45	34.50	0.43	0.214133	
4	.081636	23	6.97	0.57	4.85	0.40	3093.09	252.51	1114.00	90.94	0.37	0.377919	
=====		TOTAL		1.94		1.86		844.58461565		1.72			

RATIO R\_HAT = 0.00229  
 POP. # CUST.: 29511 POP. ENERGY : 24335097  
 POP. CPKW : 55842 POP. KW/CUST.: 1.89

ESTIMATES FOR 90% C.I., 15% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 99.69  
 mean per unit sample size = 110.85

		MONTH 201208		UPPER STRATA LIMITS				600		1400		2300	
		=====CPKW DATA=====						=====KW DATA=====					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.	
1	.502696	61	0.43	0.22	0.88	0.44	193.51	97.28	186.13	93.57	0.38	0.515653	
2	.234391	63	2.46	0.58	1.83	0.43	1010.17	236.78	213.43	50.03	0.40	0.369364	
3	.152021	42	4.66	0.71	2.63	0.40	1826.40	277.65	268.59	40.83	0.39	0.268387	
4	.110892	49	7.94	0.88	3.67	0.41	3217.41	356.79	1058.54	117.38	0.37	0.480832	
=====		TOTAL		2.38		1.68		968.4886444		1.53			

RATIO R\_HAT = 0.00246  
 POP. # CUST.: 28973 POP. ENERGY : 27021171  
 POP. CPKW : 66478 POP. KW/CUST.: 2.29

ESTIMATES FOR 90% C.I., 15% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 53.67  
 mean per unit sample size = 59.63

GENERAL SERVICE DEMAND (GSD) RATE CLASS

The 2012 GSD rate class sample design provided very accurate load research results and only a minor change is being proposed for the 2015 sample design. That change is the breakpoint for the lower and upper stratum. The stratification variable will be January kW billing demand with break points at 25 kW, 50 kW and 130 kW for the commercial secondary voltage level customers. Industrial class customers and primary or transmission voltage level customers will all have interval recording and will be treated as a separate group from the secondary voltage level customers. The industrial class customer group numbers 142 and the primary and transmission voltage level customer group numbers 27 customers. Since GSTOU does not contain a demand portion, this rate will be its own group and contain a simple random sample of 45 customers. The total number of sample points for GSD will be 362.

The Neyman allocation of sample to strata for the new study is as follows:

STR	STRATA DESCRIPTION	WSTD CPKW	WINTER	
			MIN n	2015 INSTALLED n
1	0-25 kW	2.50	22	25
2	25.1-50 kW	3.46	30	35
3	50.1-130 kW	4.31	37	43
4	130.1 kW and greater	<u>4.52</u>	39	45
		14.79		
	CENSUS *		169	169
	GS-TOU	69.87	<u>30</u>	<u>45</u>
			327	362

\* These are industrial class or primary or transmission voltage level customers.

Additional data and study design calculations for this rate class are provided in Table 9.

**Table 9**

```
*****;
* STRATUM 1: 0-25 KW ;
* STRATUM 2: 25.1-50 KW ;
* STRATUM 3: 50.1-130 KW ;
* STRATUM 4: 130.1-UP KW ;
*****;
```

RATE 03 GSD(exclude F & above)  
 STRATIFIED ON 01/2014 KW(NCP)  
 FOUR STRATA WITH 10% RELATIVE ACCURACY  
 ALL ITERATION

		MONTH 201201		UPPER STRATA LIMITS			25	50	130			
		=====CPKW DATA=====						=====KW DATA=====				
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.461764	33	6.17	2.85	5.42	2.50	4342.94	2005.41	2969.25	1371.09	2.09	0.627448
2	.301699	26	18.02	5.44	11.46	3.46	10536.50	3178.86	6495.74	1959.76	3.80	0.373511
3	.180557	28	40.05	7.23	23.89	4.31	22725.75	4103.30	12347.13	2229.36	3.95	0.530315
4	.055979	32	140.58	7.87	80.75	4.52	80226.88	4491.02	52163.80	2920.08	4.15	0.619890
=====		TOTAL		23.39		14.79		13778.590595		13.99		=====

RATIO R\_HAT = 0.00170  
 POP. # CUST.: 16401 POP. ENERGY : 197361790  
 POP. CPKW : 334972 POP. KW/CUST.: 20.42

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 126.93  
 mean per unit sample size = 108.24

		MONTH 201208		UPPER STRATA LIMITS			25	50	130			
		=====CPKW DATA=====						=====KW DATA=====				
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.507125	33	8.94	4.53	6.83	3.46	4225.45	2142.83	2613.48	1325.36	2.14	0.788021
2	.258449	22	28.56	7.38	10.52	2.72	14297.32	3695.13	5316.42	1374.02	2.15	0.674290
3	.172699	31	56.01	9.67	24.61	4.25	29594.61	5110.95	13906.35	2401.61	3.00	0.770452
4	.061728	31	198.60	12.26	119.63	7.38	111536.1	6884.86	74962.81	4627.28	3.35	0.928376
=====		TOTAL		33.85		17.82		17833.767541		10.65		=====

RATIO R\_HAT = 0.00190  
 POP. # CUST.: 16439 POP. ENERGY : 246249217  
 POP. CPKW : 467337 POP. KW/CUST.: 28.43

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY  
 ratio SAMPLE SIZE ESTIMATE = 37.94  
 mean per unit sample size = 74.99

LP, LPT, RTP, CIS, SBS RATES

Gulf already collects interval data on all customers in rate classes RTP, CIS, and SBS; thus no sample design was necessary. Rate classes LP and LPT will also be census metered. The number of customers in these rate classes as of June 2014 are as follows:

LP Rate	- 139 customers
LPT Rate	- 86 customers
RTP Rate	- 117 customers
SBS Rate	- 3 customers
CIS Rate	- 2 customers

**Table 10**

GULF POWER COMPANY  
 2015 Cost of Service Load Research Rule Sample Size

<u>Rate</u>	<u>Strata Allocation</u>	<u>Sample Size</u>
RS	1) Multifamily	45
	2) Mobile Home	13
	3) SFD 0-1150 kWh	37
	4) SFD 1151-1950 kWh	48
	5) SFD over 1951 kWh	<u>57</u>
	Total	200
RSVP	1) SFD 0-1150 kWh	43
	2) SFD 1151-1950 kWh	88
	3) SFD over 1951 kWh	<u>69</u>
	Total	200
GS	1) 0-600 kWh	53
	2) 601-1400 kWh	57
	3) 1401-2300 kWh	47
	4) Over 2301 kWh	43
	CENSUS *	<u>20</u>
	Total	220
GSD	1) 0-25.0 kW	25
	2) 25.1-50 kW	35
	3) 50.1-130 kW	43
	4) Over 130.1 kW	45
	GS-TOU	45
	CENSUS *	<u>169</u>
	Total	362
LP	1) All customers (census)	139
LPT	1) All customers (census)	86
RTP	1) All customers (census)	117
SBS	1) All customers (census)	3
CIS	1) All customers (census)	2
TOTAL		<u>1,329</u>

\* These are industrial, primary or transmission voltage level customers.