Diamond Williams

From: Williams, Monica A. [MOWILLIA@SOUTHERNCO.COM]
Sent: Wednesday, September 07, 2011 3:15 PM
To: Filings@psc.state.fl.us
Subject: Gulf Power Company's 2012 Cost of Service Load Research Plan
Attachments: 2012 Load Research Plan.pdf

A. s/Susan D. Ritenour
Gulf Power Company
One Energy Place
Pensacola FL 32520
850.444.6231
sdriteno@southernco.com

B. Docket No. 110000-Undocketed

C. Gulf Power Company

D. Document consists of 24 pages

E. The attached document is Gulf Power Company's 2012 Cost of Service Load Research Plan which is filed pursuant to Rule 25-6.0437.

Thank you,

Monica Williams
Gulf Power Company
p (850) 444-6254
f (850) 444-6026

Susan D. Ritenour
Secretary and Treasurer
and Regulatory Manager

One Energy Place
Pensacola, Florida 32520-0781

Tel 850.444.6231
Fax 850.444.6026
SDRITENO@southernco.com

GULF POWER
A SOUTHERN COMPANY

September 7, 2011

Ms. Ann Cole, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee FL 32399-0850

Dear Ms. Cole:

RE: Undocketed

Enclosed for official filing is Gulf Power Company's 2012 Cost of Service Load Research Plan which is filed pursuant to Rule 25-6.0437.

Sincerely,

Susan D. Ritenour

mw

Enclosures

cc: Beggs & Lane
Jeffrey A. Stone, Esq.
Division of Economic Regulation
Marshall Willis

GULF POWER COMPANY

Cost of Service Load Research Plan

2012

September 2011

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 2010 energy relationship to the total retail energy sales. As shown on this table, rate classes RS, RSVP, GS, GSD, LP, LPT and RTP 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 are rates CIS and SBS.

TABLE 1

GULF POWER COMPANY
Energy By Rate

Rate	2010 MWh	% of Total Energy
RS	5,420,788	47.91%
RSVP	176,795	1.56%
GS	286,707	2.53%
GSD/GSDT/GS-TOU	2,677,657	23.67%
LP	579,072	5.12%
LPT	1,193,471	10.55%
RTP	775,673	6.86%
OS-I/II	109,914	0.97%
OS-III	40,593	0.36%
SBS	15,608	0.14%
CIS	37,640	0.33%
TOTAL RETAIL (1)	11,313,918	100.00%

(1) Excludes unbilled, company use and losses.

PREVIOUS SAMPLE DESIGN PLAN

The 2009 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 2009 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 48 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 GS rate class sample design was prestratified by kWh into four strata based on winter peak month usage with break points at 675, 1,425, and 2,300 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 20.0 kW, 50.0 kW and 130.0 kW.

The LP rate class was 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 800 kW. The second stratum was a census of all customers whose billing demand was 800 kW or higher. The LP rate class accounts for 5.1 percent of the Company's annual kWh retail sales.

The LPT rate class was prestratified into two groups. The first stratum contained a random sampling of 20 customers out of the total group of customers whose billing demand during January was lower than 1,000 kW. The second stratum was a census of all customers whose billing demand was 1,000 kW or higher. The LPT rate class accounts for approximately 11 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 2009 load research data based on the sample design described above is provided in Table 3. The results obtained in this study were used in the design of the 2012 Load Research Study. All rate classes achieved better than ten percent accuracy at the ninety percent confidence interval for the summer and winter peak period as well as for the averages of the twelve monthly coincident peaks.

Table 2
GULF POWER COMPANY
2009 Cost of Service Load Research Rule Sample Size

Rate		Strata Allocation	Sample Size	
RS	1)	Multifamily	59	
	2)	Mobile Home	28	
	3)	SFD 1150-1950 kWh	46	
	4)	SFD GE 1950 kWh	45	
	5)	SFD 0-1150 kWh	47	
		TOTAL	225	
GS	1)	0-675 kWh	72	
	2)	675-1425 kWh	79	
	3)	1425-2300 kWh	75	
	4)	over 2300 kWh	74	
		TOTAL	300	
GSD	1)	0-20.0 kW	30	
	2)	20.1-50.0 kW	45	
	3)	50.1-130.0 kW	45	
	4)	over 130.0 kW	40	
		TOTAL	160	
LP	1)	Less than 800 kW	30	
	2)	800 kW and greater	40	(census)
		TOTAL	70	
LPT	1)	Less than 1000 kW	20	
	2)	1000 kW and greater	40	(census)
		TOTAL	60	
RTP	1)	All customers	24	(census)
SBS	1)	All customers	3	(census)
CIS	1)	All customers	1	(census)
		TOTAL	843	

Table 3

GULF POWER COMPANY
Load Research Data
January, 2009 to December, 2009

RATE CLASS RS

2009	Estimated CPKW	Relative Accuracy
Winter Peak	1,254,706	6.54%
Summer Peak	1,241,857	5.91%
12 Month Avg.	1,016,504	2.86%

RATE CLASS RSVP

2009	Estimated CPKW	Relative Accuracy
Winter Peak	25,920	8.27%
Summer Peak	35,540	4.27%
12 Month Avg.	25,826	3.84%

RATE CLASS GS

2009	Estimated CPKW	Relative Accuracy
Winter Peak	57,279	9.27%
Summer Peak	59,523	6.13%
12 Month Avg.	50,722	5.71%

RATE CLASS GSD

2009	Estimated CPKW	Relative Accuracy
Winter Peak	355,172	7.78%
Summer Peak	494,719	4.81%
12 Month Avg.	406,090	3.53%

RATE CLASS LP

2009	Estimated CPKW	Relative Accuracy
Winter Peak	59,978	8.06%
Summer Peak	87,660	5.61%
12 Month Avg.	75,258	3.57%

RATE CLASS LTP

2009	Estimated CPKW	Relative Accuracy
Winter Peak	146,093	2.03%
Summer Peak	190,068	1.18%
12 Month Avg.	165,964	0.94%

RATE CLASS RTP

2009	Estimated CPKW	Relative Accuracy
Winter Peak	88,627	0.00%
Summer Peak	87,096	0.00%
12 Month Avg.	90,131	0.00%

RATE CLASS SBS

2009	Estimated CPKW	Relative Accuracy
Winter Peak	930	0.00%
Summer Peak	572	0.00%
12 Month Avg.	6,534	0.00%

2012 SAMPLE DESIGN PLAN

The 2012 sample design plan uses data collected from the 2009 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 2012 sample plan includes all primary and transmission volatge level customers. These customers will be treated as a separate population for each rate class. For secondary voltage level customers, the combined ratio estimator methodology was used for the sample size estimates for this 2012 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 recorders will be deployed on those premises. To calculate the total rate class data, the CPKW estimates and standard deviations for each group will be summed together and then a new variance 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

$\overline{Y}_h$ = Stratum Average CPKW

S_{yh} = Stratum Standard Deviation of CPKW

$\overline{x}_h$ = 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 2009 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 2012 RS rate class study will keep the 2009 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 2012 study is as follows:

	PRIMARY	SECONDARY	WINTER		
	STRATA	STRATA	WSTD	MIN	2012
STR	DESCRIPTION	DESCRIPTION	CPKW	n	INSTALLED n
1	Multifamily		0.74	21	67
2	Mobile Home		0.27	8	25
3	Single Family Detached	0 to 1150 kWh	0.51	14	46
4	Single Family Detached	1150-1950 kWh	0.50	14	45
5	Single Family Detached	1950 kWh and greater	0.46	13	42
			2.48	70	225

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

TABLE 6

RATE CLASS RS
STRATIFIED ON 01/2011 KWH
FIVE STRATA WITH 10% RELATIVE ACCURACY

02/2009 PEAK

			CPKW DATA				KWH DATA					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
MF	0.291911	54	2.45	0.71	2.53	0.74	828.19	241.76	670.38	195.69	0.43	0.809568
MOBILE	0.082566	26	3.42	0.28	3.22	0.27	1167.38	96.39	781.25	64.51	0.16	0.814839
SF-LE1500	0.271495	43	1.83	0.50	1.86	0.51	607.84	165.02	312.23	84.77	0.43	0.532081
SF-1151-1950	0.215222	46	4.46	0.96	2.34	0.50	1535.02	330.37	230.59	49.63	0.50	0.204857
SF-1951-UP	0.138806	34	8.02	1.11	3.34	0.46	2576.47	357.63	726.34	100.82	0.40	0.520814
TOTAL				3.57		2.48		1191.17			1.91	

RATIO R_HAT = 0.00299
POP. # CUST.:367026 POP. ENERGY : 463248286
POP. CPKW : 1386640 POP. KW/CUST.: 3.78

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
RATIO METHOD SAMPLE SIZE ESTIMATE = 69.48
MEAN PER UNIT SAMPLE SIZE ESTIMATE = 130.73

06/2009 PEAK

			CPKW DATA				KWH DATA					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
MF	0.291911	57	2.14	0.63	1.76	0.51	1101.40	321.51	678.03	197.93	0.32	0.786381
MOBILE	0.082566	26	3.48	0.29	1.72	0.14	1589.38	131.23	783.03	64.65	0.10	0.769596
SF-LE1500	0.271495	21	1.70	0.46	1.23	0.33	844.43	229.26	298.23	80.97	0.27	0.593128
SF-1151-1950	0.215222	40	4.10	0.88	2.18	0.47	1532.40	329.81	227.18	48.89	0.48	0.018348
SF-1951-UP	0.138806	61	5.65	0.78	1.78	0.25	2810.84	390.16	831.92	115.48	0.24	0.524845
TOTAL				3.04		1.70		1401.97			1.41	

RATIO R_HAT = 0.00217
POP. # CUST.:366054 POP. ENERGY : 571784585
POP. CPKW : 1240126 POP. KW/CUST.: 3.39

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
RATIO METHOD SAMPLE SIZE ESTIMATE = 46.54
MEAN PER UNIT SAMPLE SIZE ESTIMATE = 85.07

RESIDENTIAL SERVICE VARIABLE PRICING (RSVP) RATE CLASS

The 2012 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 2012 study is as follows:

	PRIMARY	SECONDARY	WINTER		
	STRATA	STRATA	WSTD	MIN	2012
STR	DESCRIPTION	DESCRIPTION	CPKW	n	INSTALLED n
1	Single Family Detached	0 to 1150 kWh	0.31	14	33
2	Single Family Detached	1150-1950 kWh	0.86	37	91
3	Single Family Detached	1950 kWh and greater	0.95	42	101
			2.12	93	225

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: 1191-UP    KWH                             ;
*************************************************************;
```

RATE CLASS RSVP
STRATIFIED ON 01/2011 KWH
THREE STRATA WITH 10% RELATIVE ACCURACY

MONTH 200902 UPPER STRATA LIMITS 1150 1950

			CPKW DATA				KWH DATA					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.189119	82	1.81	0.34	1.64	0.31	838.07	158.50	211.51	40.00	0.28	0.440989
2	.401801	91	3.00	1.20	2.14	0.86	1492.11	599.53	221.49	88.99	0.86	0.126694
3	.409080	36	4.38	1.79	2.32	0.95	2361.24	965.93	447.38	183.01	0.97	0.129035
TOTAL				3.34		2.12		1723.960246			2.11	

RATIO R_HAT = 0.00194
POP. # CUST.: 8519 POP. ENERGY : 15858806
POP. CPKW : 30709 POP. KW/CUST.: 3.60

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
RATIO SAMPLE SIZE ESTIMATE = 92.57
MEAN PER UNIT SAMPLE SIZE = 108.94

MONTH 200906 UPPER STRATA LIMITS 1150 1950

			CPKW DATA				KWH DATA					
STRATUM	WEIGHT	S.S.	AVERAGE	WGT AVG	STD DEV	WGT STD	AVERAGE	WGT AVG	STD DEV	WGT STD	(F)	CORR.
1	.103069	9	2.70	0.28	0.90	0.09	974.00	100.39	196.78	20.28	0.09	0.304725
2	.382753	82	3.42	1.31	1.28	0.49	1596.19	610.95	254.64	97.46	0.44	0.429829
3	.514178	97	5.06	2.60	1.56	0.80	2694.06	1385.23	676.45	347.81	0.77	0.478361
TOTAL				4.19		1.39		2096.5620054			1.30	

RATIO R_HAT = 0.00200
POP. # CUST.: 8881 POP. ENERGY : 18537073
POP. CPKW : 37024 POP. KW/CUST.: 4.17

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
ratio SAMPLE SIZE ESTIMATE = 26.43
mean per unit sample size = 29.67

GENERAL SERVICE NON-DEMAND (GS) RATE CLASS

The 2009 GS rate class study contained a total of 300 sample points stratified on winter peak month energy with strata break points at 675, 1425, and 2300 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 2012 with minor changes in the breakpoints for the secondary voltage level customers. The 2012 GS rate class is prestratified into four strata with breakpoints at 700, 1,400, and 2,500 kWh of the average of January and February energy. Primary voltage level 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 customers in the GS rate class.

Shown below is the Neyman allocation of sample to strata for the 2012 study.

STR	STRATA DESCRIPTION	WSTD CPKW	WINTER MIN n	2012 INSTALLED n
1	0-700 kWh	0.46	22	68
2	701-1400 kWh	0.52	24	77
3	1401-2500 kWh	0.52	24	77
4	2501 kWh and greater	0.51	24	76
	CENSUS *		2	2
		2.01	96	300

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

* These are primary voltage level customers.

TABLE 8

```
*****************************************************************;
*    STRATUM 1: 0    -700                                       ;
*    STRATUM 2: 701 -1400                                       ;
*    STRATUM 3: 1401-2500                                       ;
*    STRATUM 4: 2501-UP                                         ;
*****************************************************************;
```

RATE CLASS GS(exclude F & above)
STRATIFIED ON AVERAGE OF 01/2011 KWH and 02/2011 KWH
FOUR STRATA WITH 15% RELATIVE ACCURACY
ALL ITERATION

MONTH 200902 UPPER STRATA LIMITS 700 1400 2500

			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	.566719	81	0.51	0.29	0.81	0.46	258.79	146.66	223.77	126.82	0.43	0.447714
2	.201355	69	3.01	0.61	2.56	0.52	1037.39	208.88	194.48	39.16	0.50	0.263618
3	.160804	73	4.62	0.74	3.23	0.52	1894.16	304.59	297.64	47.86	0.49	0.356611
4	.071121	48	9.57	0.68	7.23	0.51	3618.88	257.38	1054.99	75.03	0.51	0.188537
TOTAL				2.32		2.01		917.51284351			1.93	

RATIO R_HAT = 0.00253
POP. # CUST.: 28258 POP. ENERGY : 24428196
POP. CPKW : 61691 POP. KW/CUST.: 2.18

ESTIMATES FOR 90% C.I., 15% RELATIVE ACCURACY
RATIO SAMPLE SIZE ESTIMATE = 93.87
MEAN PER UNIT SAMPLE SIZE = 90.48

MONTH 200906 UPPER STRATA LIMITS 700 1400 2500

			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	.523070	75	0.48	0.25	0.88	0.46	257.27	134.57	217.50	113.77	0.41	0.462493
2	.188164	39	1.81	0.34	1.59	0.30	989.00	186.09	195.88	36.86	0.28	0.312930
3	.183715	70	4.12	0.76	2.14	0.39	1871.43	343.81	322.21	59.20	0.39	0.160452
4	.105051	84	7.82	0.82	3.52	0.37	3754.05	394.37	1144.79	120.26	0.32	0.519014
TOTAL				2.17		1.52		1058.8392623			1.41	

RATIO R_HAT = 0.00205
POP. # CUST.: 28538 POP. ENERGY : 28902223
POP. CPKW : 59305 POP. KW/CUST.: 2.08

ESTIMATES FOR 90% C.I., 15% RELATIVE ACCURACY
RATIO SAMPLE SIZE ESTIMATE = 55.13
MEAN PER UNIT SAMPLE SIZE = 59.09

GENERAL SERVICE DEMAND (GSD) RATE CLASS

The 2009 GSD rate class sample design provided very accurate load research results and only a minor change is is being proposed for the 2012 sample design. That change is the breakpoint for the upper stratum. The stratification variable will be January kW billing demand with break points at 20 kW, 50 kW and 150 kW for the secondary voltage level customers. Primary and transmission voltage level customers will all have interval recorders and will be treated as a separate group from the secondary voltage level customers. The primary and transmission voltage level customer group numbers 26 customers. The total number of sample points will be 175.

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

STR	STRATA DESCRIPTION	WSTD CPKW	WINTER MIN n	2012 INSTALLED n
1	0-20 kW	1.74	10	20
2	20.1-50 kW	4.61	26	39
3	50.1-150 kW	6.31	36	54
4	150.1 kW and greater	4.25	24	36
	CENSUS *		26	26
		16.91	122	175

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

* These are primary or transmission voltage level customers.

Table 9

```
*****************************************************************;
*    STRATUM 1: 0-20                                            ;
*    STRATUM 2: 20.1-50                                         ;
*    STRATUM 3: 50.1-150                                        ;
*    STRATUM 4: 150.1-UP                                        ;
*****************************************************************;
```

RATE CLASS GSD(exclude F & above)
STRATIFIED ON 01/2011 KW(NCP)
FOUR STRATA WITH 10% RELATIVE ACCURACY
ALL ITERATION

MONTH 200902 UPPER STRATA LIMITS 20 50 150

			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	.381307	42	5.94	2.27	4.55	1.74	3169.83	1208.68	1639.25	625.06	1.58	0.459512
2	.389933	38	14.90	5.81	11.83	4.61	8275.79	3227.01	4404.99	1717.65	3.88	0.554603
3	.186161	49	48.75	9.08	33.89	6.31	28446.27	5295.60	16894.93	3145.18	4.43	0.733116
4	.042599	29	153.89	6.56	99.84	4.25	77565.24	3304.18	39861.31	1698.04	3.32	0.630930
TOTAL				23.71		16.91		13035.463054			13.21	

RATIO R_HAT = 0.00182
POP. # CUST.: 17073 POP. ENERGY : 208761806
POP. CPKW : 379698 POP. KW/CUST.: 22.24

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
RATIO SAMPLE SIZE ESTIMATE = 95.48
MEAN PER UNIT SAMPLE SIZE = 137.64

MONTH 200906 UPPER STRATA LIMITS 20 50 150

			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	.417808	43	9.73	4.07	4.97	2.08	4623.91	1931.91	2259.63	944.09	1.53	0.691666
2	.345012	34	21.18	7.31	9.24	3.19	11519.65	3974.41	5493.09	1895.18	2.54	0.712135
3	.187114	50	57.94	10.84	34.00	6.36	34605.06	6475.08	17350.82	3246.57	3.15	0.871015
4	.050067	31	212.53	10.64	96.37	4.83	110827.2	5548.75	53815.29	2694.35	2.76	0.840901
TOTAL				32.85		16.45		17930.143286			9.98	

RATIO R_HAT = 0.00183
POP. # CUST.: 16966 POP. ENERGY : 266464041
POP. CPKW : 488262 POP. KW/CUST.: 28.78

ESTIMATES FOR 90% C.I., 10% RELATIVE ACCURACY
RATIO SAMPLE SIZE ESTIMATE = 32.52
MEAN PER UNIT SAMPLE SIZE = 67.85

LARGE POWER SERVICE (LP) RATE CLASS

The 2009 LP rate class study design provided a very accurate estimate of demand for this class. The 2012 sample design will retain the 2009 sample design which is two strata with census metering of all LP rate customers whose billing demand during January was 500 kW or higher and a random sampling of 30 customers of the remaining secondary voltage level customers. Primary and transmission voltage level customers will all have interval recorders and will be treated as a separate group from the secondary voltage level customers. The primary and transmission level voltage customer group numbers 18 customers.

LARGE POWER TOU (LPT) RATE CLASS

The 2012 LPT rate class study design will be a random sample of 30 of the secondary voltage level LPT rate customers. Primary and transmission voltage level customers will all have interval recorders and will be treated as a separate group from the secondary voltage level customers. This primary and transmission voltage level customer group numbers 21 customers.

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. The number of customers in these rate classes as of July 2011 are as follows:

RTP Rate - 28 customers

SBS Rate - 3 customers

CIS Rate - 1 customer

Table 10
GULF POWER COMPANY
2012 Cost of Service Load Research Rule Sample Size

Rate		Strata Allocation		Sample Size
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		1089

* These are primary or transmission voltage level customers.