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April 28, 2005

HAND DELIVERED

Ms. Blanca S. Bayo, Director
Division of Commission Clerk
and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Load Research Report - Tampa Electric Company

Dear Ms. Bayo:

In compliance with Rule 25-6.0437, enclosed are five copies of Tampa Electric Company's Load Research Report.

Please acknowledge receipt and filing of the above by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,



James D. Beasley

JDB/pp
Enclosures

cc: Angela Llewellyn

DOCUMENT NUMBER - DATE

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FPSC-COMMISSION CLERK

TAMPA ELECTRIC COMPANY
DOCKET NO. 820491-EU

TAMPA ELECTRIC COMPANY
LOAD RESEARCH REPORT
APRIL 2005

REPORTING PERIOD

The data summarized in this report was collected during calendar year 2004. The two overlapping samples were selected in 2002 and 2003, and the recording equipment was installed prior to December 31 of the year the sample was selected in most cases.

SAMPLING PLAN

The sampling plan was formulated and filed with the Florida Public Service Commission in August 2002.

RESIDENTIAL CLASS SAMPLE

The residential samples were pre-stratified by housing type. The three housing type categories are single-family detached, multi-family, and mobile-home. The primary reasons for using this stratification are that the load patterns for the three housing types are dissimilar and the percentage of mobile homes in the population changes with the seasons. For example, the percentage of mobile homes ranged from 11.8% to 11.3% in the winter and summer, respectively. Because the sample is stratified by housing type and the inter-strata migration is insignificant, changes are made to the stratum weights on a month by month basis when estimating class demands. Thus, the estimated demands reflect the seasonal changes in the housing type mix. The sample points were allocated to the strata using Neyman allocation with stratum means and variances estimated from the previous sample results. A minimum sample size of 50 was used in the multi-family and mobile home categories. The resulting sample allocation is shown below.

RESIDENTIAL SERVICE SAMPLE SIZES

Stratum	Sample Size 2002	Sample Size 2003	Total
Single Family Detached	88	87	175
Multi Family	25	25	50
Mobile Home	25	25	50
Total	138	137	275

GENERAL SERVICE NON-DEMAND CLASS SAMPLE

The stratification variable used for both of the overlapping General Service Non-Demand samples was annual kilowatt-hour consumption at the time of sample selection. The samples were selected in 2002 and 2003. Both samples were comprised of two strata. The stratum boundary for both was set at 15,000 kWh of annual usage. The sample points were allocated to the strata using Neyman allocation with stratum variances estimated from previous sample results. The allocation is shown below.

GENERAL SERVICE NON-DEMAND SAMPLE SIZES

Stratum	Sample Size 2002	Sample Size 2003	Total
0 – 14,999 kWh	129	128	257
15,000 kWh and beyond	122	121	243
Total	251	249	500

GENERAL SERVICE DEMAND CLASS SAMPLE

The stratification variable used for both of the General Service Demand overlapping samples was the highest billed demand in twelve months prior to sample selection. For cost of service analysis, class demands are separated by voltage level. To facilitate this separation, a stratum of all customers served at primary voltage and another stratum of customers served at secondary voltage but metered at primary voltage were established. For secondary voltage customers, the stratum boundaries were 200 kW and 300 kW. All customers over 300 kW were included in the sample in a 100% sampled stratum. Any customers subsequently exceeding this threshold had recorders installed on their meters and were included in the sample as well. The sample points in the two sampled strata were allocated using Neyman allocation. The allocation is shown below and reflects totals in the 100% sampled strata as of December 2004.

GENERAL SERVICE DEMAND SAMPLE SIZES

Stratum	Sample Size 2002	Sample Size 2003	Total
Primary Metered/Primary Served	56 (100%)		56
Primary Metered/Secondary Served	32 (100%)		32
Secondary under 300 kW			
0 – 199 kW	35	35	70
200 – 299 kW	35	35	70
Secondary over 299 kW	972 (100%)		972
Total	1,130	1,130	1,200

GENERAL SERVICE LARGE DEMAND CLASS SAMPLE

The General Service Large Demand class has recorders installed on each customer. For cost of service analysis the customers are divided by voltage level. On a month by month basis, as customers migrate into and out of the GSLD rate, the analysis population changes accordingly. The population size was 205 as of December 2004.

INTERRUPTIBLE SERVICE CLASS SAMPLE

The Interruptible Service class has recorders installed on each customer. For cost of service analysis the customers are divided by voltage level. On a month by month basis, as customers migrate into and out of the IS rate, the analysis population is changed accordingly. The population size was 61 as of December 2004.

STUDY METHODOLOGY

Following sample design, the load research study consists of four phases: data collection, editing, storage and analysis. The methodology Tampa Electric used in the phases for this study is basically the same as it has used in the past.

DATA COLLECTION

Once sample sizes, stratum definitions, and sample allocations have been determined, sample selection is ready to begin. Random numbers are assigned to the members of the class and the list of customers is sorted in ascending order by the assigned random number. The first group of customers on the list is the prime sample, while the following group is used as a source of replacement customers. The replacement list is maintained in random order and is used in order on an as-needed basis. For customers selected, the standard billing watt-hour meter is replaced with a pulse-initiating meter, and a recording device is installed to collect and retain pulse information in fifteen minute intervals. The recorded information is collected, usually on a monthly basis, and processed by the Meter Department through a translation system. The translation system produces transfer files which are uploaded to the company's mainframe computer and subsequently input into the LODESTAR System. Data entered into LODESTAR goes through a preliminary screening to determine its acceptability. Unacceptable data is examined by analysts to determine if any portion of the data is useable and if any editing is required. The data is flagged to indicate whether it is suitable for analysis purposes and is then stored permanently on magnetic tape.

DATA ANALYSIS

The data flagged as acceptable in the LODESTAR System is then processed through software modules capable of performing stratified or un-stratified mean-per-unit, combined ratio or separate

ratio analysis. The analyses are run on a calendar month basis and produce statistics at the class level and at the per-customer level. For Tampa Electric Company, the best results for sampled classes are obtained through the use of combined ratio expansion. Since the 100% sampled classes do not require statistical expansion, the results for these classes are tabulated with the mean-per-unit module.

SAMPLE POINT REPLACEMENT

Initially and during the course of the load research study, sample points must be replaced. To minimize the amount of replacement necessary, Tampa Electric does not request permission from customers before recorders are installed. During the sampling period, 92 replacements were required and were done for the following reasons: Rate Changes (13), extended periods of suspense (11), customer dissatisfaction or installation problems (59), meter/service removed (2), and customers moved to 100% sample (7). In all cases the replacements were selected randomly from customers in the same stratum. The assumption necessitated as a result of making these replacements is that no significant bias is introduced into the results in the process. Particularly since the combined ratio expansion technique was used for the analysis phase in the sampled classes, the assumption is reasonable.

RESULTS

The following tables provide the class coincident and non-coincident demands and their related precision for the calendar year 2004. The precision values reported are calculated at the 90% confidence level. Although the data for the Residential class came from two independent samples, the sample estimates were computed as if they came from a single sample. Since both samples were stratified by housing type, this approach is valid. The results shown in the tables for the General Service Non-Demand and General Service Demand classes are computed by combining the estimates developed from the two independent, overlapping samples with weighting factors of 0.5.

The winter system coincident peak occurred on January 29, 2004 at 08:00, and the summer coincident peak occurred on August 19, 2004 at 17:00. Estimates for the RS, GS and GSD classes were more accurate than the target accuracy specified by the Load Research Rule for summer and winter coincident peak and for the average of twelve coincident peaks.

**RESIDENTIAL CLASS
MONTHLY COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	1,898.6	3.52	7.5
February	1,616.0	2.98	7.5
March	1,030.9	1.90	7.0
April	1,484.3	2.73	6.5
May	1,730.9	3.19	5.2
June	1,906.6	3.51	4.2
July	1,891.4	3.47	5.0
August	1,824.7	3.36	5.2
September	1,742.5	3.19	5.0
October	1,565.7	2.86	4.6
November	1,379.2	2.52	5.6
December	1,848.3	3.36	7.7

12 Coincident Peak Average
Precision

1,659.9 MW
2.8 %

**RESIDENTIAL CLASS
MONTHLY CLASS NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	1,949.1	3.6	6.0
February	1,663.5	3.06	7.3
March	1,265.7	2.32	9.4
April	1,484.3	2.73	6.5
May	2,057.2	3.79	4.5
June	2,005.8	3.69	4.6
July	1,981.0	3.63	4.8
August	1,965.5	3.61	4.3
September	1,983.9	3.63	5.8
October	1,793.6	3.28	6.0
November	1,510.2	2.76	5.9
December	1,944.4	3.54	7.4

**RESIDENTIAL CLASS
MONTHLY CUSTOMER NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	4,466.8	8.27	4.2
February	4,248.7	7.84	4.0
March	4,004.9	7.37	3.9
April	3,841.2	7.07	3.6
May	4,137.9	7.62	3.6
June	4,062.0	7.47	3.2
July	4,087.9	7.51	3.4
August	4,133.0	7.60	3.6
September	4,112.3	7.53	3.5
October	3,756.6	6.88	4.0
November	3,846.9	7.03	4.4
December	4,557.5	8.28	4.5

**GENERAL SERVICE NON-DEMAND
MONTHLY COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	147.8	2.44	10.2
February	126.0	2.07	9.2
March	171.8	2.81	6.0
April	197.8	3.22	5.8
May	214.5	3.49	5.7
June	222.2	3.60	5.1
July	218.8	3.54	4.8
August	213.0	3.45	5.1
September	225.2	3.65	5.3
October	200.9	3.26	6.1
November	197.1	3.198	6.0
December	135.0	2.17	10.0

12 Coincident Peak Average
Precision

189.2 MW
4.2 %

**GENERAL SERVICE NON-DEMAND
MONTHLY CLASS NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	181.9	3.00	8.5
February	174.5	2.87	6.4
March	184.8	3.02	5.8
April	215.2	3.51	6.5
May	239.5	3.89	5.8
June	242.1	3.92	4.7
July	233.0	3.77	5.6
August	238.6	3.87	6.7
September	230.0	3.73	4.8
October	219.3	3.56	5.9
November	209.2	3.39	6.1
December	186.6	3.01	6.5

**GENERAL SERVICE NON-DEMAND
MONTHLY CUSTOMER NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	405.0	6.7	6.4
February	366.4	6.02	5.5
March	350.1	5.73	5.9
April	377.9	6.16	5.5
May	398.5	6.48	5.6
June	409.5	6.63	5.7
July	396.5	6.41	5.6
August	400.3	6.49	6.3
September	389.7	6.31	5.9
October	364.2	5.91	5.9
November	341.4	5.54	5.6
December	430.4	6.93	6.4

**GENERAL SERVICE DEMAND CLASS
MONTHLY COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	642.6	47.4	7.4
February	634.4	47.1	6.4
March	738.1	55.7	3.5
April	815.1	62.5	3.8
May	879.3	67.4	4.3
June	884.7	67.8	3.7
July	856.5	65.0	3.6
August	893.6	67.4	4.1
September	922.6	69.3	4.1
October	847.6	63.6	4.3
November	843.1	63.1	4.9
December	629.8	47.7	7.1

12 Coincident Peak Average
Precision

799.0 MW
3.0 %

**GENERAL SERVICE DEMAND CLASS
MONTHLY CLASS NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	752.0	55.48	5.5
February	776.1	57.64	7.8
March	778.0	58.72	4.2
April	871.4	66.86	4.1
May	923.1	70.78	4.5
June	913.5	70.01	3.8
July	934.1	70.92	5.1
August	965.8	72.87	5.1
September	942.5	70.74	4.3
October	898.5	67.38	4.2
November	871.8	65.24	4.7
December	835.2	63.27	4.9

**GENERAL SERVICE DEMAND CLASS
MONTHLY CUSTOMER NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)
January	1,044.7	77.02	6.3
February	1,030.4	76.58	4.8
March	995.5	75.14	5.1
April	1,070.2	82.11	4.9
May	1,114.1	85.42	5.0
June	1,134.3	86.94	4.4
July	1,151.9	87.46	5.3
August	1,185.4	89.44	5.7
September	1,161.1	87.15	4.8
October	1,106.5	82.98	4.7
November	1,050.1	78.59	5.2
December	1,074.7	81.40	6.5

**GENERAL SERVICE LARGE DEMAND CLASS
MONTHLY COINCIDENT DEMANDS
2004**

January	256.5	1,342.74	NA
February	259.3	1,350.65	NA
March	300.1	1,571.15	NA
April	308.7	1,607.87	NA
May	331.5	1,754.13	NA
June	325.3	1,685.37	NA
July	325.0	1,658.24	NA
August	330.4	1,660.50	NA
September	345.7	1,694.83	NA
October	329.9	1,617.15	NA
November	327.5	1,597.78	NA
December	258.6	1,261.42	NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

**GENERAL SERVICE LARGE DEMAND CLASS
MONTHLY CLASS NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)⁽¹⁾
January	305.2	1,597.82	NA
February	314.0	1,635.59	NA
March	308.7	1,616.09	NA
April	320.7	1,670.07	NA
May	341.9	1,808.76	NA
June	350.6	1,816.76	NA
July	342.5	1,747.67	NA
August	351.3	1,765.47	NA
September	349.9	1,715.29	NA
October	344.4	1,688.02	NA
November	338.2	1,649.6	NA
December	330.1	1,610.3	NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

**GENERAL SERVICE LARGE DEMAND CLASS
MONTHLY CUSTOMER NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)⁽¹⁾
January	356.1	1,864.28	NA
February	366.1	1,906.82	NA
March	365.7	1,914.68	NA
April	369.2	1,922.89	NA
May	392.7	2,077.60	NA
June	403.3	2,089.50	NA
July	403.4	2,058.23	NA
August	413.6	2,078.42	NA
September	415.2	2,035.32	NA
October	398.6	1,953.71	NA
November	386.4	1,885.10	NA
December	380.8	1,857.77	NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

**INTERRUPTIBLE SERVICE CLASS
MONTHLY COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%) ⁽¹⁾
January	233.3	3,431.02	NA
February	208.0	3,104.88	NA
March	198.3	2,959.08	NA
April	221.8	3,311.14	NA
May	140.8	2,271.46	NA
June	176.5	2,893.27	NA
July	150.5	2,467.88	NA
August	209.7	3,436.92	NA
September	169.0	2,770.41	NA
October	221.3	3,628.23	NA
November	165.8	2,718.66	NA
December	180.6	2,960.98	NA

12 Coincident Peak Average **189.64 MW**
Precision NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

**INTERRUPTIBLE SERVICE CLASS
MONTHLY CLASS NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%)⁽¹⁾
January	262.1	3,854.06	NA
February	257.0	3,835.13	NA
March	266.0	3,969.92	NA
April	248.1	3,703.02	NA
May	248.8	4,012.93	NA
June	267.5	4,385.11	NA
July	220.3	3,611.52	NA
August	280.8	4,603.59	NA
September	257.6	4,223.44	NA
October	252.0	4,131.36	NA
November	238.9	3,915.76	NA
December	265.7	4,355.56	NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

**INTERRUPTIBLE SERVICE CLASS
MONTHLY CUSTOMER NON-COINCIDENT DEMANDS
2004**

Month	Class Total (MW)	Average Per Customer (kW)	Precision (%) ⁽¹⁾
January	427.7	6,289.11	NA
February	414.6	6,187.71	NA
March	415.4	6,199.74	NA
April	378.9	5,654.72	NA
May	428.5	6,911.44	NA
June	440.2	7,216.50	NA
July	399.6	6,550.28	NA
August	468.2	7,674.89	NA
September	424.3	6,954.95	NA
October	445.3	7,300.25	NA
November	433.8	7,111.31	NA
December	431.2	7,068.92	NA

(1) Accuracy for this class does not apply since it is 100% sampled and does not require statistical expansion.

COINCIDENT AND NON-COINCIDENT PEAK DATES AND TIMES

	Coincident	Non-Coincident Peaks				
Month	Peak	RS	GS	GSD	GSLD	IS
Jan	29-08:00	11-09:00	12-10:00	05-15:00	05-14:00	14-01:00
Feb	19-08:00	08-10:00	06-15:00	24-12:00	12-15:00	03-20:00
Mar	05-17:00	11-08:00	04-16:00	05-14:00	05-14:00	19-20:00
Apr	30-17:00	30-17:00	26-16:00	30-15:00	26-15:00	09-09:00
May	26-17:00	31-17:00	27-15:00	26-15:00	27-14:00	04-08:00
Jun	23-17:00	13-17:00	24-15:00	24-14:00	02-13:00	12-05:00
Jul	09-17:00	25-18:00	06-15:00	14-15:00	14-15:00	29-07:00
Aug	19-17:00	29-18:00	12-14:00	31-14:00	31-14:00	17-19:00
Sep	01-16:00	19-17:00	02-15:00	01-15:00	16-14:00	09-02:00
Oct	04-17:00	02-17:00	04-15:00	01-15:00	20-13:00	05-13:00
Nov	03-16:00	02-19:00	02-15:00	04-14:00	01-14:00	30-01:00
Dec	15-08:00	27-08:00	08-16:00	08-14:00	09-15:00	28-20:00

**CLASS TOTAL
MONTHLY ENERGY (MWh)**

Month	RS	GS	GSD	GSLD	IS
Jan	650,096	70,106	375,231	175,939	152,196
Feb	526,888	63,864	356,125	168,144	132,154
Mar	522,889	73,498	389,337	182,946	155,368
Apr	534,795	74,965	393,216	177,854	134,690
May	766,073	90,582	447,672	198,595	140,863
Jun	866,022	98,962	466,798	203,245	137,789
Jul	876,060	99,445	479,010	207,084	121,851
Aug	863,481	97,324	481,881	208,321	137,264
Sep	809,500	86,839	444,701	197,407	122,812
Oct	676,886	85,823	445,725	202,765	145,471
Nov	543,067	72,078	391,939	183,446	133,744
Dec	655,524	74,511	378,225	179,507	140,218
Total	8,291,281	987,997	5,049,860	2,285,253	1,654,420

**CUSTOMER AVERAGE
MONTHLY ENERGY (kWh)**

Month	RS	GS	GSD	GSLD	IS
Jan	1,204	1,157	27,664	921,148	2,238,181
Feb	972	1,049	26,452	875,748	1,972,441
Mar	962	1,203	29,386	957,831	2,318,930
Apr	985	1,222	30,169	926,323	2,010,291
May	1,411	1,473	34,323	1,050,766	2,271,981
Jun	1,594	1,602	35,776	1,053,083	2,258,832
Jul	1,609	1,610	36,369	1,056,553	1,997,558
Aug	1,588	1,579	36,357	1,046,839	2,250,237
Sep	1,483	1,407	33,379	967,680	2,013,310
Oct	1,240	1,393	33,428	993,945	2,384,770
Nov	992	1,170	29,332	894,860	2,192,525
Dec	1,192	1,200	28,649	875,642	2,298,649

COINCIDENT PEAK LOAD FACTORS

Month	RS	GS	GSD	GSLD	IS
Jan	46%	64%	78%	92%	88%
Feb	49%	75%	84%	96%	95%
Mar	68%	58%	71%	82%	105%
Apr	50%	53%	67%	80%	84%
May	59%	57%	68%	81%	134%
Jun	63%	62%	73%	87%	108%
Jul	62%	61%	75%	86%	109%
Aug	64%	61%	72%	85%	88%
Sep	65%	54%	67%	79%	101%
Oct	58%	57%	71%	83%	88%
Nov	55%	51%	65%	78%	112%
Dec	48%	74%	81%	93%	104%
12 CP AVG	57%	60%	72%	85%	100%

NON-COINCIDENT PEAK LOAD FACTORS

Month	RS	GS	GSD	GSLD	IS
Jan	45%	52%	67%	77%	78%
Feb	47%	54%	68%	80%	77%
Mar	56%	53%	67%	80%	79%
Apr	50%	48%	63%	77%	75%
May	50%	51%	65%	78%	76%
Jun	60%	57%	71%	81%	72%
Jul	59%	57%	69%	81%	74%
Aug	59%	55%	67%	80%	66%
Sep	57%	52%	66%	78%	66%
Oct	51%	53%	67%	79%	78%
Nov	50%	48%	62%	75%	78%
Dec	45%	54%	61%	73%	71%