

6:10pm  
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January 25, 1995

HAND DELIVERED

IN REPLY REFER TO:

Tallahassee

ORIGINAL  
FILE COPY

Ms. Blanca S. Bayo, Director  
Division of Records and Reporting  
Florida Public Service Commission  
101 East Gaines Street  
Tallahassee, Florida 32399-0850

Re: Conservation Cost Recovery Clause  
FPSC Docket No. 950002-EG

Dear Ms. Bayo:

Enclosed for filing in the above docket, on behalf of Tampa Electric Company, are fifteen (15) copies of Prepared Direct Testimony and Exhibit of John E. Currier.

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

ACK ✓ Thank you for your assistance in connection with this matter.

- AFA \_\_\_\_\_
- APP \_\_\_\_\_
- CAF \_\_\_\_\_
- CR \_\_\_\_\_

Sincerely,

*James D. Beasley*  
James D. Beasley

JDB/pp  
Enclosures *5*

cc: All Parties of Record (w/encls.)

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- C \_\_\_\_\_
- E \_\_\_\_\_
- S *1* \_\_\_\_\_
- V \_\_\_\_\_
- G \_\_\_\_\_

RECEIVED & FILED  
*mas*  
FPSC-BUREAU OF RECORDS

DOCUMENT NUMBER-DATE

00929 JAN 25 95

FPSC-RECORDS/REPORTING

Ms. Blanca S. Bayo  
January 25, 1995  
Page 2

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing Testimony and Exhibit of John E. Currier, filed on behalf of Tampa Electric Company, has been furnished by U. S. Mail or hand delivery (\*) on this 25<sup>th</sup> day of January, 1995 to the following:

Mr. Robert Elias\*  
Staff Counsel  
Division of Legal Services  
Florida Public Service Commission  
101 East Gaines Street  
Tallahassee, FL 32301

Mr. Jeffrey A. Stone  
Beggs & Lane  
Post Office Box 12950  
Pensacola, FL 32576

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Mr. Robert Scheffel Wright  
Landers & Parsons  
Post Office Box 271  
Tallahassee, FL 32302

Mr. James A. McGee  
Senior Counsel  
Florida Power Corporation  
Post Office Box 14042  
St. Petersburg, FL 33733

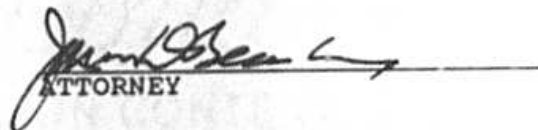
Mr. Jack Shreve  
Office of Public Counsel  
Room 812  
111 West Madison Street  
Tallahassee, FL 32399-1400

Mr. Wayne L. Schiefelbein  
Gatlin, Woods, Carlson & Cowdery  
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Mr. Stuart L. Shoaf  
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Post Office Box 549  
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Ms. Laura L. Wilson  
Messer, Vickers, Caparello,  
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Mr. Ross S. Burnaman  
Ms. Debra Swim  
Legal Environmental Assistance  
Foundation, Inc.  
1115 N. Gadsden Street  
Tallahassee, FL 32303-6327

  
ATTORNEY

Ms. Blanca S. Bayo  
January 25, 1995  
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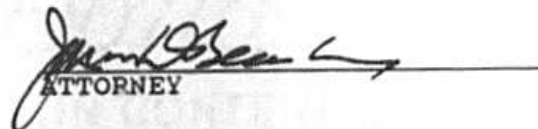
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ATTORNEY



1 Planning. In April 1993 I was promoted to Manager, Demand  
2 Side Management Planning, and in April 1994 I was promoted  
3 to my current position. As manager of Commercial and  
4 Residential Energy Services I am responsible for the  
5 company's marketing efforts in the Commercial and  
6 Residential Market segments.

7  
8 Q. Have you submitted testimony to this Commission in other  
9 proceedings?

10  
11 A. Yes. I submitted testimony on behalf of Tampa Electric in  
12 the Commission's conservation cost recovery Docket No.  
13 940002-EG. I also testified last year in Docket No.  
14 930551-EG which was the proceeding to set conservation  
15 goals for Tampa Electric.

16  
17 Q. Have you prepared an exhibit in support of your testimony?

18  
19 A. Yes. I have prepared an exhibit entitled, "Exhibit of John  
20 E. Currier," which consists of 7 documents and has been  
21 identified as Exhibit No. \_\_\_ (JEC-1).

22  
23 Q. Mr. Currier, what is the purpose of your testimony in this  
24 proceeding?

25

1   **A.**   The purpose of my testimony is to address (pursuant to  
2           Commission Order PSC-95-0018-FOF-PU) the broader  
3           advertising issues introduced in Docket No. 941165-EG  
4           between Peoples Gas and Tampa Electric Company. This  
5           testimony describes in more detail the false and misleading  
6           advertising Peoples Gas has provided to homebuilders,  
7           potential homebuyers, and existing customers. I will point  
8           out several discrepancies in reported appliance  
9           efficiencies and cost comparisons presented by Peoples Gas  
10          through various advertising media. I will also address how  
11          this advertising causes harm to both Peoples and Tampa  
12          Electric customers.

13  
14   **Q.**   Please describe the importance of providing consumers with  
15          accurate, unbiased and consistent cost information.

16  
17   **A.**   The ultimate choice between gas and electric service should  
18          be left to the consumers. So long as consumers are offered  
19          accurate price and product information, they will be in the  
20          best position to choose their energy sources for  
21          themselves. The relative efficiencies of gas and electric  
22          appliances are a vital consideration when consumers select  
23          new appliances. Because consumers have little access to  
24          independent technical comparisons of gas and electric  
25          appliances specific to Tampa Electric's and/or Peoples'



1 service area, they rely heavily on utilities, homebuilders  
2 and appliance dealers for this information. False or  
3 misleading information by any utility about relative  
4 appliance efficiencies causes harm to customers of the  
5 electric and gas utilities. Peoples has published  
6 inaccurate and misleading cost comparisons of gas and  
7 electric appliances. This action harms gas customers which  
8 invest in gas appliances that perform less than expected  
9 and may not be as satisfactory as the electric appliances  
10 they might otherwise have selected. Electric customers are  
11 also harmed because they lose the rate-minimizing benefits  
12 of new customers to support company revenue requirements.  
13 Therefore, it is important that consumers receive  
14 consistent, accurate and unbiased information rather than  
15 what the utility believes or wants to believe is true and  
16 accurate.

17  
18 Q. Please describe the advertising that Tampa Electric is  
19 aware of which Peoples has provided to homebuilders and  
20 potential homebuyers in residential developments comparing  
21 electric and natural gas efficiencies and costs.

22  
23 A. Peoples has provided brochures and brochure packets to  
24 homebuilders and potential homebuyers in residential  
25 developments. They have also published advertisements

1 within the Builders Association of Greater Tampa's monthly  
2 publication the "Building Barometer" promoting their  
3 Residential Homebuilder program with an ad comparing gas  
4 and electric costs (Document No. 1 of my Exhibit). This  
5 publication is available to homebuilders in Tampa  
6 Electric's service area. In addition they have provided  
7 cost comparison information in their monthly newsletter  
8 "Peoples Newsletter", which is mailed with bills to  
9 customers (Document No. 2).

10  
11 Q. Please identify the discrepancies Tampa Electric finds with  
12 Peoples' advertising specific to appliance usage and cost  
13 comparisons.

14  
15 A. Peoples has made false and misleading statements in widely-  
16 distributed advertisements concerning comparisons of  
17 kilowatt-hour usage of various electric appliances and the  
18 corresponding therm usage levels of gas appliances. These  
19 advertisements have been made available to homebuilders and  
20 potential home-buyers in residential developments in Tampa  
21 Electric's service area (Document No. 3).

22  
23 Average usage levels for electric appliances are well-  
24 established in Florida and have been addressed by this  
25 Commission. In the recent electric DSM goal setting



1 hearings, the Commission accepted a Synergic Resources  
2 Corporation (SRC) study concerning annual energy usage in  
3 Florida for various electric end uses including water  
4 heating, strip heating, and heat pumps (Document No. 4).  
5 Other electric appliances that were not addressed in the  
6 SRC study, including electric ranges and clothes dryers,  
7 have been modeled by Tampa Electric and other utilities.  
8 The usage levels for electric appliances as shown by these  
9 references are as follows:

<u>End Use</u>	<u>Annual Usage</u>	<u>Source</u>
Resistance Water Heating	2788 kwh	SRC study
Cooking	600 kwh	Modeling
Resistance Heating	1954 kwh	SRC study
Heat Pump	1105 kwh	SRC study
Clothes Dryer	800 kwh	Modeling

18  
19 Peoples' advertising misstates the annual electric usage  
20 amounts.

21  
22 Water Heating

23 The SRC study determined electric resistance water heating  
24 to use 2,788 kwh per year. In 1993 advertisements, which  
25 were made available in residential developments, Peoples

1 represented this number to be 5,598 kwh per year. That is  
2 more than 200% of actual usage. At the same time, it  
3 appears Peoples has understated gas water heating therm  
4 usage.

5  
6 From a claimed usage level of 209 therms per year in 1991,  
7 Peoples was representing by 1993 that gas water heating  
8 used only 191 therms per year.

9  
10 Electric Cooking

11 Electric cooking uses approximately 600 kwh per year. In  
12 1991, Peoples used 722 kwh for electric cooking per year.  
13 By 1993, Peoples used an inflated figure of 1,465.5 kwh per  
14 year. During the same period, Peoples' representations  
15 about gas cooking remained constant at 50 therms per year.

16  
17 Space Heating

18 An electric heat pump uses 1,105 kwh per year. Since 1991  
19 Peoples appears to have stopped informing customers of even  
20 the existence of electric heat pumps, choosing instead to  
21 compare gas furnaces only to electric strip heating. This  
22 selective comparison is greatly misleading because state  
23 building codes greatly constrain the use of electric  
24 resistance heating in new homes. Regardless, Peoples has  
25 overstated resistance heating annual electric usage. The

1 SRC study determined that resistance heating uses 1,954 kwh  
2 per year.

3  
4 Peoples' 1993 advertisements claimed 5,400 kwh per year for  
5 strip heating, 250% of the actual usage.

6  
7 Clothes Drying

8 The electric energy usage for electric clothes drying is  
9 approximately 800 kwh per year. In 1993, Peoples was  
10 representing that number to be 1,318.5 kwh per year, 165%  
11 of the actual usage. During this same period, Peoples'  
12 representations about gas drying usage actually decreased  
13 from 54 therms per year to 45 therms per year.

14  
15 Q. Why does Tampa Electric believe that the energy use  
16 comparisons between natural gas and electric water heating  
17 are misleading?

18  
19 A. Our analysis using EPRI's Hotcalc program<sup>1</sup> revealed that  
20 5,598 kwh annually would require approximately 97 gallons  
21 per day usage of hot water. The American Society of  
22 Heating and Refrigerating and Air Conditioning Engineers,

---

23 <sup>1</sup> EPRI Hotcalc 2.0 Commercial Water Heating Performance  
24 Simulation Tool obtained through EPRI membership. This  
25 project was cosponsored by Empire State Electric Energy  
26 Research Corporation and the contractor was D. W.  
27 Abrams, P.E. & Associates, P.C.

1 Inc. and the U. S. Department of Energy approximates an  
2 average usage of 15 gallons per person per day of hot  
3 water. The 97 gallons per day usage would thus equal  
4 approximately 6.5 people within the household on a daily  
5 basis. Based on the same gallon usage of 97 gallons per  
6 day, the annual natural gas usage would be 276 therms  
7 compared to the 191 therms stated in Peoples'  
8 advertisement. It is noted that within the Tampa Electric  
9 service area, the average household is approximately 2.8  
10 people.

11  
12 Q. How are consumers and builders being misled by an  
13 advertisement that states in a very generic sense natural  
14 gas saves 32% of home operating costs in central Florida?

15  
16 A. Consumers are misled because the advertisement (Document  
17 No. 5) is just that, "generic". There is no specific  
18 efficiency or operating cost analyses provided in the  
19 brochure nor can consumers calculate individual appliance  
20 effectiveness from the data. This advertisement  
21 accomplishes little, but effectively leaves a general  
22 impression that natural gas is at least 32% cheaper than  
23 electricity within central Florida.

24  
25 Q. How does People's advertising influence builders and home-

1 buyers in residential developments to choose gas rather  
2 than electricity?

3  
4 A. The combination of financial rebates pursuant to the  
5 Residential Homebuilder Program and misleading advertising  
6 is substantial enough to encourage the builder to choose  
7 gas appliances for the home, in some cases making them  
8 "standard". The homebuilder is not primarily concerned  
9 with the operating cost of the appliances. The builders  
10 interest is in building and selling homes as quickly and  
11 inexpensively as possible. The ultimate homeowner is left  
12 deciding their respective appliance decision based on  
13 biased information and the persuasiveness of the  
14 homebuilder.

15  
16 Q. How has Tampa Electric been harmed by Peoples' misleading  
17 advertising?

18  
19 A. Customers have bought gas appliances instead of electric  
20 appliances in reliance on Peoples' misrepresentations. In  
21 many cases, the consumer choice between natural gas and  
22 electric appliances has been severely biased toward gas  
23 through inflated advertising and lucrative cash incentives  
24 provided to builders for their participation in Peoples'  
25 Residential Homebuilder Program. As a result of this

1 market distortion, gas appliances have been sold to  
2 homeowners as standard option thus limiting the sales of  
3 electric appliances to consumers.  
4

5 The customers of Tampa Electric continue to be harmed by  
6 Peoples misrepresentations (Document No. 6). By distorting  
7 the electric versus gas comparisons Peoples has effectively  
8 discouraged consumers from buying electric appliances.  
9 Those electric appliances represent lost kilowatt-hour  
10 sales that would have permitted Tampa Electric's customers  
11 the rate-minimizing benefits of new customers support of  
12 revenue requirements.  
13

14 Tampa Electric has also been harmed through loss of  
15 revenues. These losses would not have occurred if  
16 consumers had not been misled about electric appliance  
17 operating efficiencies.  
18

19 Q. Has Peoples' advertised to the homebuilders any non-  
20 approved affiliate related incentive offerings as part of  
21 the standard Residential Homebuilder Program?  
22

23 A. Yes. Peoples' has published a "Builder Benefits" package  
24 that indicates their "builder value packages include  
25 fireplaces, water heaters and other installations including



1 propane." In the Commission approved Residential  
2 Homebuilder Program, fireplaces are not part of the  
3 program. In addition, Peoples' has advertised the  
4 Residential Homebuilder Program with parts of the so called  
5 "Leisure Package option" as one program. In Peoples'  
6 response Docket No. 941165-EG, they contradict this by  
7 specifically denying that its Residential Home Builder  
8 Program is directly tied to any of its affiliated non-  
9 Commission approved programs (Document No. 7).

10  
11 Q. What action is appropriate for the Commission in properly  
12 regulating false and misleading advertising to minimize  
13 such practices by utilities in the future?

14  
15 A. The Commission has jurisdiction over Peoples' ability to  
16 recover the costs of advertising. The extent to which a  
17 utility is entitled to recover costs associated with  
18 advertising is part of the ratemaking process. Peoples  
19 should not be entitled to recover costs associated with  
20 false and misleading advertising. Tampa Electric  
21 respectfully submits that the Commission can most  
22 effectively exercise its authority in this instance by  
23 disallowing recovery of all costs and grant other relief it  
24 deems necessary associated with Peoples' false and  
25 misleading advertising.

1 Q. Please summarize your testimony.

2

3 A. My testimony focuses on various examples of false and  
4 misleading advertising which Peoples has published within  
5 Tampa Electric's service area. The advertising in question  
6 dramatically overstates the cost of various residential end  
7 uses of electricity and at the same time dramatically  
8 understates the cost of natural gas for those same end  
9 uses. As a result, consumers and builders are being  
10 misled. In many cases the consumers' choices between  
11 natural gas and electric appliances have been severely  
12 biased toward gas. This has worked to the detriment of  
13 customers of both Tampa Electric and Peoples Gas. The  
14 Commission should disallow Peoples recovery of the costs of  
15 this false and misleading advertising through the Energy  
16 Conservation Cost Recovery mechanism and grant such other  
17 relief as it deems appropriate.

18

19 Q. Does this conclude your testimony?

20

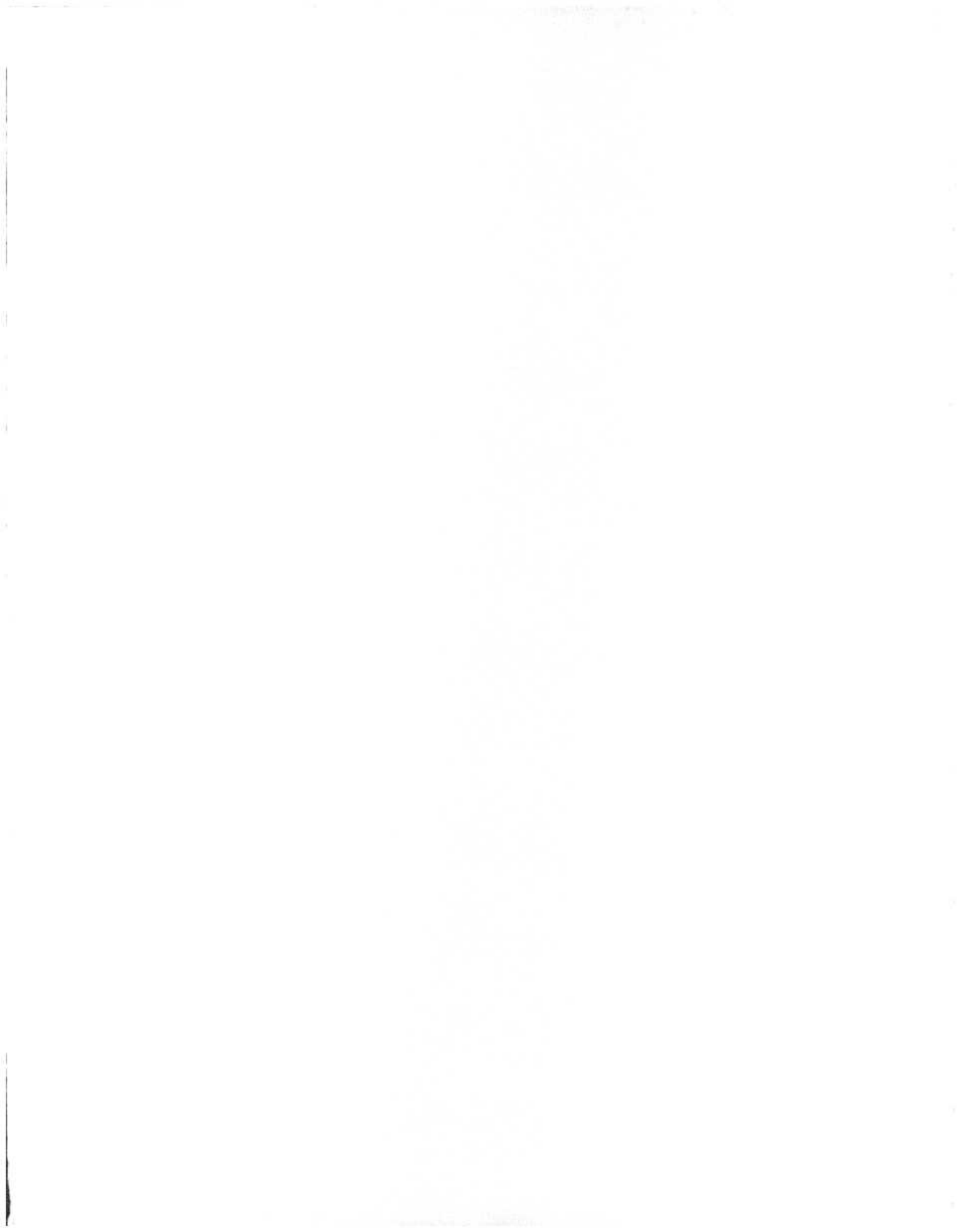
21 A. Yes.

22

23

24

25

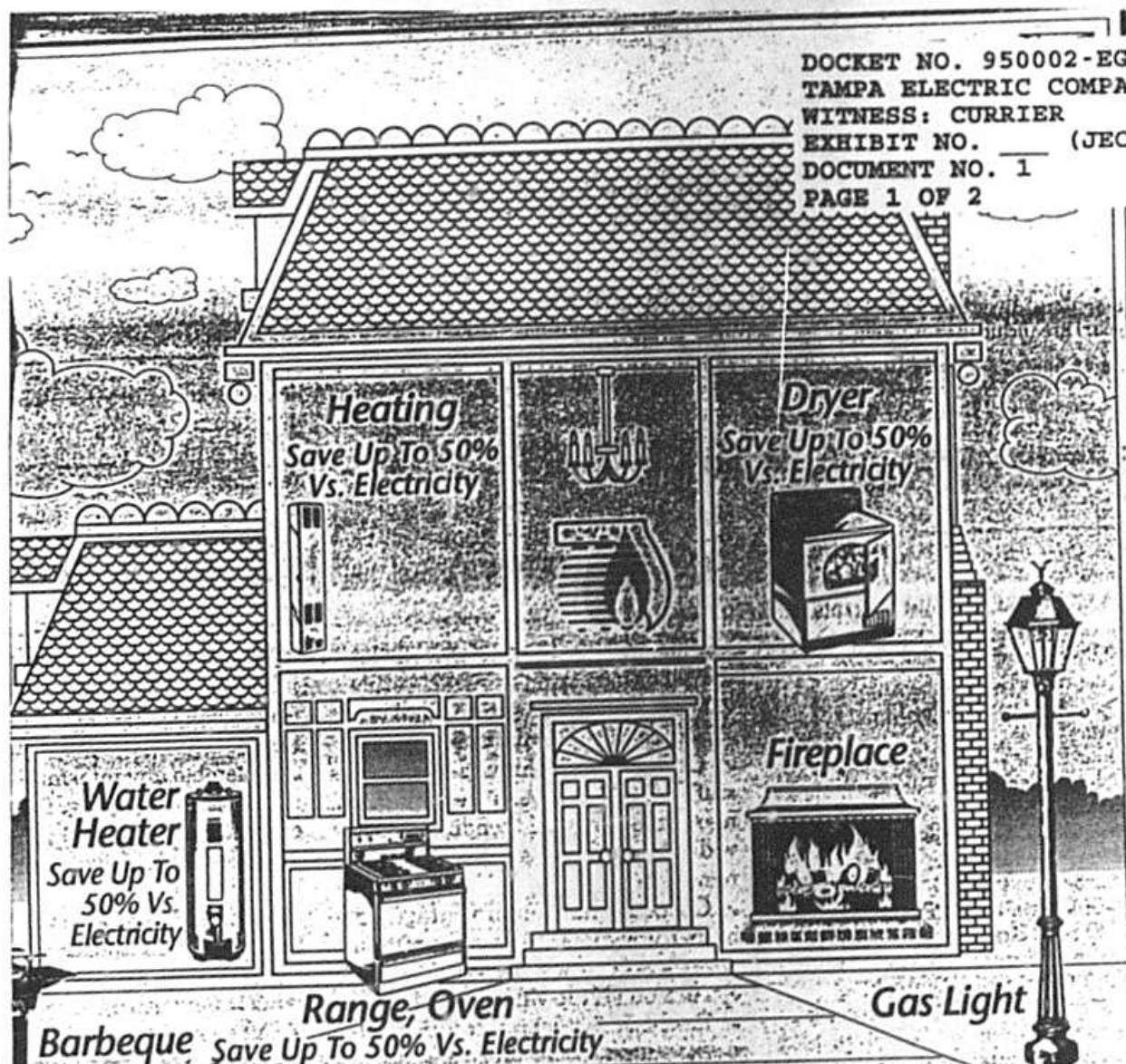


DOCKET NO. 950002-EG  
TAMPA ELECTRIC COMPANY  
WITNESS: CURRIER  
EXHIBIT NO. \_\_\_\_ (JEC-1)

EXHIBIT OF JOHN E. CURRIER

LIST OF DOCUMENTS

<u>Document No.</u>	<u>Title</u>	<u>Page</u>
1.	Building Barometer Ad	1
2.	Peoples Newsletter	3
3.	1991, 1993 Cost Comparison Brochure	5
4.	SRC Assumptions for Water Heating, Resistance Heating, and Heat Pump	6
5.	Geographic Percent Savings Brochure	11
6.	Participants to Peoples Residential Home Builders Program by Year	13
7.	"Builder Benefits"	14



an, Efficient & Environmentally Sensitive- GAS  
**Your Energy Source!**



**Peoples Gas**

1200 N. 13th Street • Tampa, Florida 33605  
For More Information Call Karl Schultz  
PHONE: 813-228-9744



## We Have Incentives for You to Build with Gas.

**A**s a builder,  
your  
reimburse-  
ment for  
construct-

ing a gas home  
could be as much

as \$670. Gas appliances diversify a home buyer's energy options. Home buyers like the warmth and immediate response of gas heat, water heating, clothes drying, cooking and firelogs. The efficiencies and economies of gas pool and spa heaters make them the obvious choice. Call us to discuss just how easy and economical it is to build with gas. Allowance programs may vary depending on number of appliances installed.



**Peoples Gas**

THE NEW ENERGY CHOICE

1200 North Thirteenth Street • Tampa, Florida 33605 • 228-9745

# PEOPLES NEWS LETTER

News from Florida's Leading Gas Utility



Peoples Gas

Volume V 1994

## Prepare for Hurricane Season

**A**ccording to the National Weather Service, hurricane season lasts from June 1 through November 30. Peoples Gas crews are on call 24 hours a day during and after serious Florida storms to ensure quick, reliable and safe gas service to our customers since gas is one of the most reliable fuels during a storm. Listed below are a few precautions to help ensure your safety if a storm hits your area.

### ▶ NATURAL GAS CONSUMERS:

IF YOU EVACUATE your home or business, **DO NOT** turn off your gas supply at the main meter. That valve should be turned on and off only by emergency or utility personnel.

DO turn off the gas to individual appliances at the appliance valve near each unit. Most codes now require an appliance valve within six feet of each appliance.

### ▶ PROPANE CONSUMERS:

IF YOU EVACUATE your home or business, turn off your gas to individual appliances at the appliance valve near each unit. You also may interrupt the gas supply to the entire building by turning clockwise the master wheel valve atop your propane tank.

If you have questions or difficulty relighting the pilot lights on your appliances, call your local Peoples Gas office or plumber.

If you are not required to evacuate your home or business, your natural gas and propane service should operate uninterrupted during a storm. It is not necessary to turn off gas service if you are not required to evacuate the area.

If your home is flooded and your gas appliances have been under water, do not attempt to operate the appliance; call Peoples Gas to schedule an inspection by a qualified technician.



### GAS APPLIANCE INSTALLATION ALLOWANCES ARE AVAILABLE

The Peoples Gas Energy Conservation Programs help offset the cost of installing energy-efficient natural gas appliances when replacing electric, oil, or standing pilot light gas appliances. Consumers may be credited up to the following amounts:

\$440 electric water heater to energy-efficient natural gas

\$440 electric heat-strip to natural gas furnace

\$330 oil heat to natural gas furnace

\$75 electric range or dryer to natural gas range or dryer

\$100 standing pilot light gas (water heater) to energy-efficient natural gas

\$65 electric space heater to natural gas space heater

**GAS VERSUS ELECTRIC**

see back page ▶

## A Straight Comparison: Gas versus Electric

A gas home can be up to 38% less expensive to operate than an all-electric home.

The chart at the right explains it: when comparing a standard 2,278 square foot home equipped with a combination gas: central heating system/water heater, gas range and dryer, with the same home equipped with an electric heat pump, electric water heater, range and dryer, the savings can be up to 38%, depending on actual household consumption and local electric rates.

Some individual appliances, such as gas dryers, can save you as much as 48% compared to electric models, an additional benefit to the life-style features available with gas and its immediate, precisely-controlled heat.

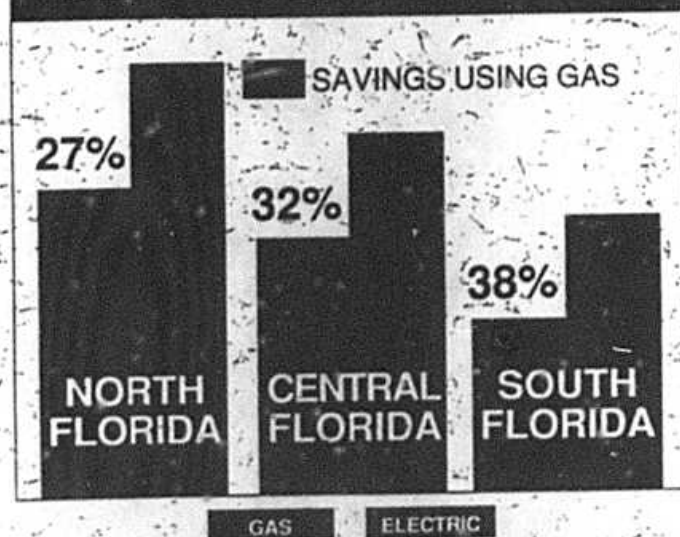
### GAS versus ELECTRIC COSTS

Cost per 1 million BTU:

Natural Gas:	\$ 7.50
Propane:	\$13.65
Electricity:	\$19.99

Above costs assume natural gas rate of \$0.75 per therm; propane rate of \$1.25 per gallon; electricity at \$0.0682 per kwh.

### HOME OPERATING COST



Electric column used as 100% operating cost benchmark. Gas costs figured at \$0.75 per therm, and electricity at \$0.0682 per kwh. Excluding electric and gas service monthly service charge.



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A publication of Peoples Co.  
P.O. Box 2562, Tampa, FL 33601





Table E-1

DOCKET NO. 950002-EG  
 TAMPA ELECTRIC COMPANY  
 WITNESS: CURRIER  
 EXHIBIT NO. \_\_\_\_\_ (JEC-1)  
 DOCUMENT NO. 4  
 PAGE 1 OF 5

## SINGLE FAMILY PROTOTYPES

Component	NORTH		CENTRAL		SOUTH	
	Existing	New	Existing	New	Existing	New
Floor Area (SqFt)	1478	1840	1511	1840	1637	1840
House Shape	Square	Square	Square	Square	Square	Square
Stories	1	1	1	1	1	1
Construction	Frame	Frame	Concrete Block	Concrete Block	Concrete Block	Concrete Block
Window Area (SqFt)	222	276	227	276	246	276
Window Type	Single Glazed	Double Glazed	Single Glazed	Single Glazed	Single Glazed	Single Glazed
Overhang	1.5' Each Side	1' Each Side	1.5' Each Side	1' Each Side	1.5' Each Side	1' Each Side
Window Shading Coefficient	0.67	0.59	0.67	0.67	0.67	0.67
Wall Insulation	R-6.2	R-11	R-2.9	R-3	R-1.4	R-3
Wall Absorptivity	0.5	0.5	0.5	0.5	0.5	0.5
Ceiling Insulation	R-18.5	R-30	R-15.8	R-19	R-13.4	R-19
Roof Absorptivity	0.8	0.8	0.8	0.8	0.8	0.8
Heating T'stat Setting (Elec Res/Heat Pump)	63/66	63/66	68/69	68/69	70	70
Cooling T'stat Setting	77	77	77	77	78	78
Avg. Internal Gains (Watts)	515	515	515	515	515	515
Peak Internal Gains (Watts)	1098	1098	1098	1098	1098	1098
Infiltration (ACH)	0.4	0.36	0.4	0.36	0.4	0.36

**BASE TECHNOLOGY STOCK AND STANDARD  
 PERFORMANCE FACTORS**

END USE	STOCK	STANDARD
Electric Resistance Heat	Efficiency = 100%	Efficiency = 100%
Heat Pump Space Heat	HSPF = 6.5	HSPF = 6.8
Room Air Conditioning	EER = 7.8	EER = 8.8
Central Air Conditioning	SEER = 8.6	SEER = 10.0
Heat Pump Cooling	SEER = 8.6	SEER = 10.0

The electric resistance heat efficiency of 100% applies only to the heating coils. The system efficiency is less than 100% after duct leakage and duct heat gain are accounted for.

The stock HP and AC performance factors were based on average compressor age as reported in the 1990 Fla. Survey and data on trends in efficiencies of new products (Geller - Ref. 1)



The SRC study uses Energy Factors for water heaters which represent a set of steady state conditions. However, in actual usage, a water heater will experience a set of conditions that will change over time. Some of these are, inlet water temperatures, surrounding ambient temperatures, daily temperature swings and dewpoint temperatures. While the Energy Factors help consumers with comparisons, they do not reflect the actual annual energy usage. The EPRI Hotcalc program simulates actual usage and accounts for the set of changing conditions that water heaters actually experience.

## ASSUMPTIONS FOR ESTABLISHING BASELINE

Electric water heating in the residential sector embodies four general types of water heating equipment<sup>1</sup>:

- Electric resistance water heater
- Heat pump water heater
- Heat recovery water heater (desuperheater)
- Solar water heater.

Each type has unique operating and consumption characteristics. The electric water heating UEC developed in the sales profile task is the weighted-average UEC of these four water heating types within a housing type (see Table F-1). Individual UECs for each of the technology types were derived by disaggregating the weighted-average UEC using the relative efficiencies and utility-specific shares of each technology type. This process is implemented for each housing type separately. The relative efficiencies are based on a metering study conducted by the Florida Solar Energy Center<sup>2</sup> and are presented in Table F-2. The annual COPs (Coefficient of Performance, a measure of efficiency) were normalized relative to electric resistance in order to get the relative electric consumptions (shown in the last column). For example, a heat recovery water heater annually consumes only 75% of the electricity that an electric resistance water heater consumes (thus saving 25% of electricity). The utility shares of each technology type are based on utility appliance saturation surveys and FPSC filings (see Table F-3). Figure F-1 presents an example of how the electric water heat UEC (the weighted-average value) is disaggregated into

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<sup>1</sup>These four categories are defined by the Florida Public Service Commission (FPSC Ref. 7) in the End Use Data Rule 25-17.006, (4)(b), which requires each utility to provide residential appliance forecasts.

<sup>2</sup>Merrigan, Tim and Parker, Danny, *Electrical Use, Efficiency, and Peak Demand of Electric Resistance, Heat Pump, Desuperheater, and Solar Hot Water Systems*, Professional Paper FSEC-PF-215-90 published in ACEEE 1990 Summer Study on Energy Efficiency in Buildings.

technology-specific UECs based on known technology shares and relative efficiencies. Table F-4 presents the resulting technology-specific UECs for each utility region, housing type, and vintage based on the disaggregation process.

The electric resistance UEC derived from the sales profile is referred to as the *stock UEC* because it represents the average consumption of the mix of resistance water heaters of varying efficiencies currently in use in the existing residential market. But in order to properly evaluate the savings due to installing a DSM technology, the stock UEC must first be adjusted to account for the increase in efficiency which naturally occurs from water heater replacement turnover.

The national appliance efficiency standards<sup>3</sup> for water heaters (which took effect in 1990) require new electric water heaters to have Energy Factors (EF) of at least 0.90 for 40-gallon tanks. The average efficiency of stock water heaters is assumed to be 0.82.<sup>4</sup> Thus, the stock UEC must be adjusted by a factor of  $0.91 = 0.82/0.90$  in order to represent the annual consumption of a new unit installed today (referred to as STANDARD). This standard UEC is now the base case consumption to which the percentage savings of all DSM technologies is applied for both the existing and new markets (see Table F-15 for utility and housing type-specific UECs). This base case is referred to as Electric Resistance Water Heat - STANDARD (WH-B1). The analyses in this study are based on the tank size most commonly found in each housing type<sup>5</sup> — 40-gallon tanks in single family homes and 30-gallon tanks in multifamily and mobile homes.

<sup>3</sup>National Appliance Energy Conservation Act of 1987.

<sup>4</sup>Howard S. Geller (ACEEE) in the *Residential Equipment Efficiency: A State-of-the-Art Review* cites the 1986 shipment - weighted efficiency of electric water heaters as 0.84EF. Because the average water heater lifetime is 15 years, we assume a slightly lower average efficiency for stock water heaters (EF = 0.82).

<sup>5</sup>From the FPSC Survey, a statewide residential survey mandated by the FPSC.

## ▶ PEOPLES GAS OFFICES

**Broward County**  
2700 S.W. 2nd Ave. (Ft. Laud.)  
305/763-8900

**Dade County**  
16101 W. Dixie Highway  
305/940-0139

**Daytona Beach**  
618 W. Int'l. Speedway Blvd.  
904/253-5635

**Highlands**  
1085 West Main Street  
813/452-2251

**Holiday**  
2848 Grand Boulevard  
813/934-5300

**Jacksonville**  
4040 Phillips Highway  
904/739-1211

**Lakeland**  
445 Kathleen Road  
813/686-3153

**Orlando**  
600 West Robinson  
407/425-4661

**Palm Beach Gardens**  
10180 Riverside Drive  
407/694-1103

**St. Petersburg**  
1800 9th Avenue North  
813/894-2560

**Sarasota**  
1565 State Street  
813/366-4277

**Tampa**  
1200 North 13th Street  
813/228-9744

**Triangle**  
1724 Kurt Street  
904/357-3154

Keep Your Energy  
Bills Down When The  
Heat Is On.



**Peoples Gas**  
THE NEW ENERGY CHOICE.



**Peoples Gas**

**GAS**  
TAMPA - LIFESTYLE - ECONOMY

## Who says home and water heating have to cost a lot?

**T**oday's smart homeowners are lowering their home heating and hot water bills up to 38% with gas.

**Warmer**

Air heated by gas is warm, comfortable and economical. Gas heat enters a room at around 120°F. On the other hand, electric heat pumps blow air out at about 95°F, which is below normal body temperature.

**Quicker**

On average, gas hot water heaters produce more hot water and have a quicker recovery period than electric models. And direct venting allows easy installation in tight areas of your home. In fact, water and space heating can now be combined to carry on two functions, inexpensively. With HYDRO-HEAT, air is blown over

### GAS versus ELECTRIC COSTS

Cost per 1 million BTU:

Natural Gas \$ 7 50

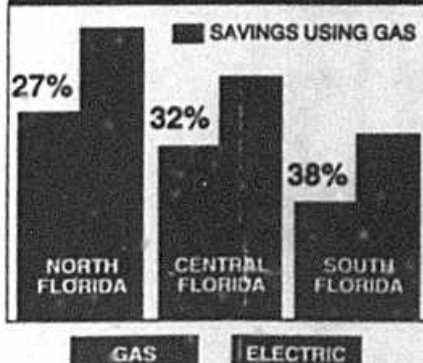
Propane \$13 65

Electricity \$19 99

*Above costs assume natural gas rate of \$0.75 per therm; propane rate of \$1.25 per gallon; electricity rate of \$0.0682 per kilowatt hour.*

the hot water heater coil, absorbed, then blown throughout your home as warm heat. The process is efficient, economical and environmentally friendly. Water heater sediment build-up and corrosion are reduced by frequent water circulation, which in turn allows a longer life for your heating unit.

### HOME OPERATING COST



Comparison based on 2,278 square foot home. Gas home equipped with combination central heating/hot water heater, gas range and dryer; electric home equipped with electric heat pump, electric water heater, range and dryer. Electric column used as 100% operating cost benchmark for all regions. Gas costs figured at \$0.75 per therm, and electricity at \$0.0682 per kWh.

Gas heat provides an increase in warm water and an even circulation of warm air throughout your house. So keep the energy bills down and the comfort up; heat your home and water with gas.

**Available Everywhere**

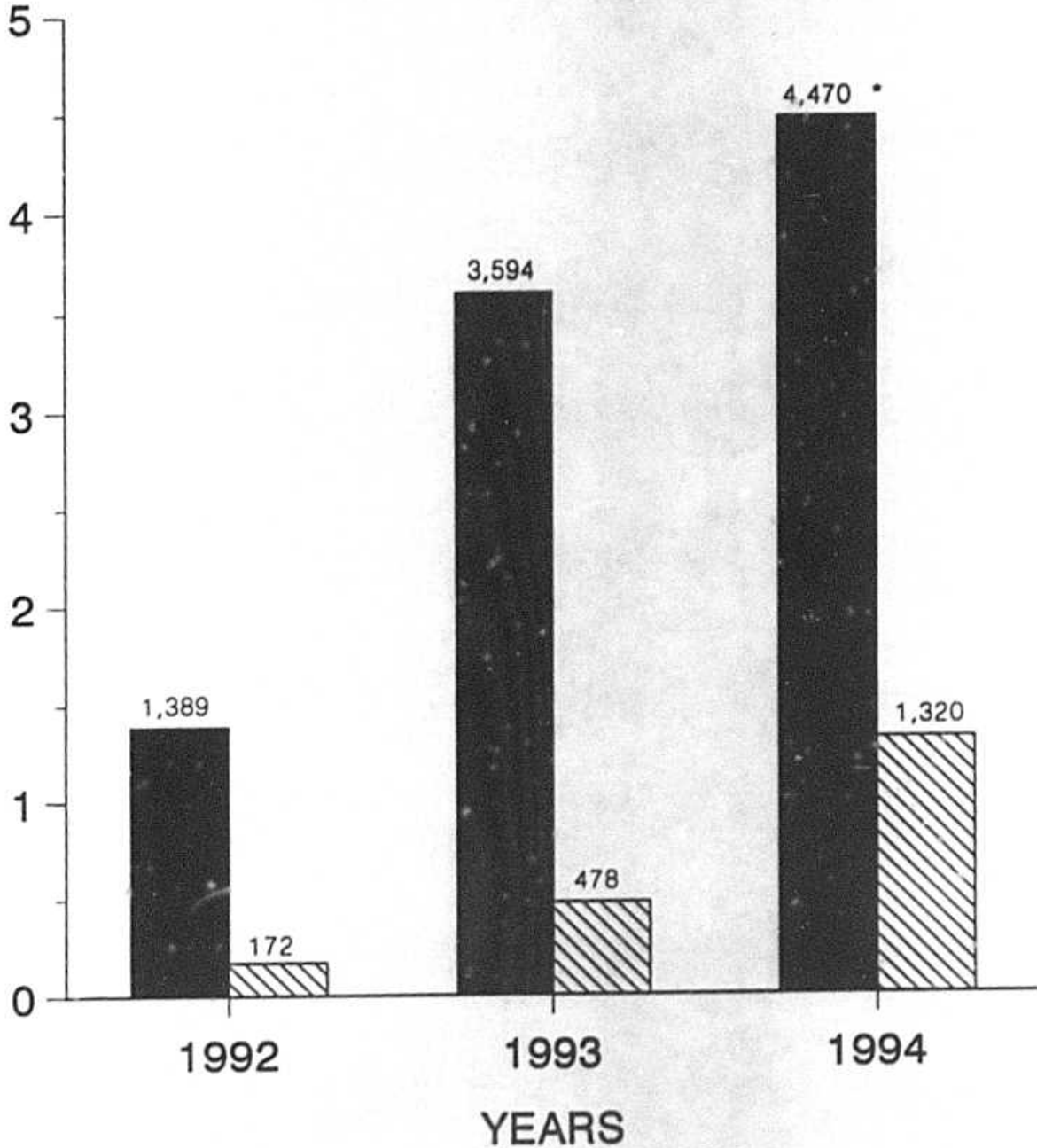
The same operating features are available on natural gas or propane home and water heater systems. Propane gas service is available from all Peoples Gas offices for homes not on a natural gas main.



# PEOPLES GAS RESIDENTIAL HOME BUILDER PROGRAM PARTICIPANTS BY YEAR

DOCKET NO. 950002-EG  
 TAMPA ELECTRIC COMPANY  
 WITNESS: CURRIER  
 EXHIBIT NO. \_\_\_\_\_ (JEC-1)  
 DOCUMENT NO. 6  
 PAGE 1 OF 1

# OF PARTICIPANTS (THOUSANDS)



\* December-1994 is estimated

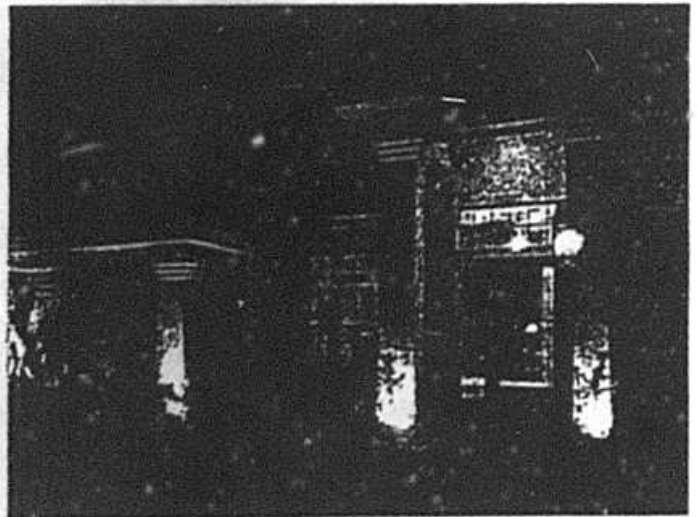
NOTE: TEC's participants estimated

TOTAL PGS PARTICIPANTS
  TEC'S PARTICIPANTS



DOCKET NO. 950002-EG  
TAMPA ELECTRIC COMPANY  
WITNESS: CURRIER  
EXHIBIT NO. \_\_\_\_\_ (JEC-1)  
DOCUMENT NO. 7  
PAGE 1 OF 2

# Sell More Homes with Gas BUILDER BENEFITS

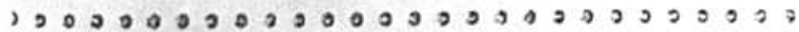


Bud Levell  
CROSS CREEK  
973-2655



**Peoples Gas**

**THE GAS ADVANTAGE**



## ▶ GAS IS THE NEW ENERGY CHOICE.



Peoples Gas strives to help you build better homes, offer more buyer value and increase affordability of the investment. The highly visible features and economical maintenance costs of gas appliances enhance your home sales.

We want to make it even easier and more profitable for you to build gas homes by offering the following benefits and services:

### ▶ BUILDER BENEFIT 1

- 15 Lower construction costs to builder.
- 15 Lower maintenance costs to consumer.

We have designed specially-priced packages of the most desired gas appliances for you to enhance and help sell your developments. These Builder Value Packages include fireplaces, water heaters and other installations. Peoples Gas will work closely with you to develop a program best suited to meet your needs.

### ▶ BUILDER BENEFIT 2

Added value with installation incentives.

Incentive and reimbursement programs are offered for both natural and propane gas installation. For natural gas, reimbursement can total up to \$670.00 per home!



### ▶ BUILDER BENEFIT 3

Upgraded amenities that sell.

Homeowners respond to the lifestyle enhancement features of a gas home. A remote control gas fireplace is one of the most affordable home appliance upgrades and yet provides a solid feeling of value and luxury for homebuyers, further positioning a home as being upscale and desirable. Gas ranges are available with cook-top downdraft grill features. Outdoor gas lighting provides a rich, warm glow. Besides their economy and reliability, the features and charm of many gas appliances visibly enhance your units.

### ▶ BUILDER BENEFIT 4

Sales support.

Peoples Gas provides and furnishes sales support materials that strongly identify the benefits of buying a gas home. It costs less to cook, heat water, and dry clothes with gas; it will cost the homebuyer less money to operate the home after purchase. And gas provides quicker recovery and softer heat. These buyer benefits are strong sales tools, helping move your inventory.

These buyer benefit aids are effective point of purchase tools, helping solidify the sale.



### ▶ BUILDER BENEFIT 5

Partners in progress.

Peoples Gas will assist builders in providing all piping and construction services necessary to equip a home for natural or propane gas. Additionally, Peoples Gas will provide full appliance installation services.

Let's talk. We're here to help. Call us and we'll show you how easy it is to light up and heat up your sales with gas.