



ORIGINAL

JAMES A. MCGEE
ASSOCIATE GENERAL COUNSEL
PROGRESS ENERGY SERVICE COMPANY, LLC

030999-EG

October 22, 2003

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

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COMMISSION
CLERK

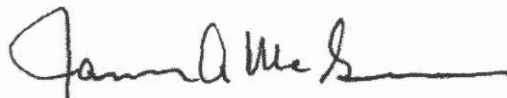
Re: Petition of Progress Energy Florida for approval of
modifications to its Residential New Construction and
Residential Energy Management DSM programs.

Dear Ms. Bayó:

Enclosed for filing on behalf of Progress Energy Florida, Inc., formerly Florida
Power Corporation, are an original and fifteen copies of the subject Petition.

Please acknowledge your receipt of the above filing on the enclosed copy of
this letter and return to the undersigned. Also enclosed is a 3½ inch diskette
containing the above-referenced Petition and its exhibits in Word and Excel format.
Thank you for your assistance in this matter.

Very truly yours,


James A. McGee

JAM/scc
Enclosures

*Original Tariff Sheets
forwarded to ECR.*

DOCUMENT NUMBER - DATE
10458 OCT 23 8
FPSC-COMMISSION CLERK

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Progress Energy Florida for approval of modifications to its Residential New Construction and Residential Energy Management DSM programs.

Docket No. 030999-EG

Submitted for filing:
October 23, 2003

P E T I T I O N

Progress Energy Florida, Inc. (Progress Energy or the Company), pursuant to Rule 25-17.015(4), F.A.C., hereby petitions the Florida Public Service Commission (the Commission) for approval of modifications to its Demand-Side Management (DSM) programs and related tariff sheets for Residential New Construction and Residential Energy Management, as set forth in Exhibit A hereto. Exhibit B shows the requested modifications in legislative format. In support hereof, Progress Energy states as follows.

Introduction

1. Progress Energy is a public utility subject to the regulatory jurisdiction of the Commission pursuant to Chapter 366, Florida Statutes. The Company's principal place of business is located at 100 Central Avenue, St. Petersburg, Florida 33701.

2. All notices, pleadings and correspondence required to be served on the petitioner should be directed to:

James A. McGee, Esquire
Post Office Box 14042
St. Petersburg, FL 33733-4042
Facsimile: (727) 820-5519

For private courier deliveries, please use the street address in paragraph 1 above.

DOCUMENT NUMBER - DATE

10458 OCT 23 03

3. By Order No. PSC-00-0750-PAA-EG, issued April 17, 2000 in Docket No. 991789-EG, the Commission approved the Company's DSM Plan for meeting its conservation goals established in the docket. The Plan consisted of a portfolio of individual DSM programs which included the Residential New Construction Program and the Residential Energy Management Program. Changing conditions and new information available to Progress Energy since these programs were approved have led the Company to develop the modifications proposed by this petition as a means to increase their cost-effectiveness.

Residential New Construction Program Modifications

4. The principal modification to the Residential New Construction Program is an increase in the minimum Seasonal Energy Efficiency Rating (SEER) of heat pumps from 11.5 to 13.0 in order to qualify for builder incentives. The other significant program modifications are the addition of options for the installation of attic radiant barrier systems and high-performance windows, as well as improvements to the cooperative advertising option for builders participating in the program. Exhibit C contains cost-effectiveness calculations and assumptions for the modified program under the Commission's Rate Impact Measure (RIM) test, Total Resource Cost (TRC) test, and Participant test.

5. Several factors have contributed to the proposed increase in the minimum SEER for heat pumps. Recent changes in the Florida Energy Code

impose higher energy efficiency requirements on the total structure, while providing builders an increased menu of efficiency options for meeting these requirements. Since the cost of comparable efficiency gains vary from option to option, builders in the highly competitive new home construction market select the least-cost combination of options that meet the overall efficiency requirement for the total structure. Because the incremental cost of higher efficiency heat pumps has been decreasing,¹ builders are electing this option with increasingly greater frequency as the least-cost compliance alternative. This is borne out by the fact that heat pump installations qualifying for the program's incentive through September 30, 2003, year-to-date, have more than doubled from the same period last year. As a result, the cost-effectiveness of the Residential New Construction is being reduced by the "free rider" effect of heat pump incentives paid to builders who would have installed the higher efficiency units in any event as the least-cost option to comply with Energy Code.

6. The option for attic radiant barrier systems has been added to the program based on research conducted in conjunction with the Florida Solar Energy Center. This research has demonstrated the added value of a radiant barrier system in new home construction with insulation ratings of R-19 and above. In a similar vein, high performance windows have been added as a program option because of a recent double-edged improvement in cost-

¹ The additional cost to increase the efficiency of a heat pump from a SEER of 10 to 11.5 when the program was approved in 2000 is approximately the same as the current cost of an efficiency increase from a SEER of 11.5 to 13.

effectiveness -- insulation efficiencies of the windows have increased, while their costs have decreased.

Residential Energy Management Program Modifications

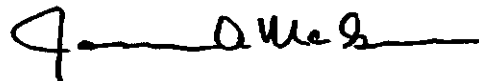
7. Progress Energy's Residential Energy Management Program is a direct load control program that reduces the Company's demand during peak or emergency conditions by temporarily interrupting certain customer equipment for specified periods of time. Effective April 1, 2001, Progress Energy's all seasons Energy Management Program, Rate Schedule RSL-1, was closed to new customers and a new winter-only Energy Management Program, Rate Schedule RSL-2, was placed into effect and open to all residential customers. The Company's proposed modifications apply only to the new RSL-2 program and only to those customers using a heat pump for central heating purposes.

8. These program modifications will provide greater demand reductions while improving the level of customer comfort during load control periods. Specifically, the modifications will give the Company the option to interrupt only the heat pump's secondary resistive heating elements (heat strips) for the duration of the control period. The main heat pump itself would be allowed to operate without interruption during the entire control period. Exhibit D contains cost-effectiveness calculations and assumptions for the modified program under the RIM test, TRC test, and Participant test.

9. End-use studies conducted on 204 residences in Progress Energy's service area found that strip heat elements on heat pump systems can be driven into operation more frequently when load control is in effect. These studies found that continuous interruption of only the strip heat circuits on heat pumps improved demand reduction over the first two hours of control, compared to interrupting the entire heat pump under the normal interruption schedule. In addition, the studies found that customer acceptance of the program improved by allowing the heat pump compressor to operate without interruption during the full control period.

WHEREFORE, Progress Energy respectfully requests that the Commission grant this petition and approve the modifications to the Company's DSM programs and related tariff sheets contained in the attached Exhibit A.

Respectfully submitted,



James A. McGee
Associate General Counsel
Progress Energy Service Company, LLC
Post Office Box 14042
St. Petersburg, Florida 33733-4042
Telephone: 727-820-5184
Facsimile: 727-820-5519
Email: james.mcgee@pgnmail.com

Attorney for
PROGRESS ENERGY FLORIDA, INC.

EXHIBIT A

**MODIFICATIONS TO
RESIDENTIAL NEW CONSTRUCTION AND
RESIDENTIAL ENERGY MANAGEMENT DSM PROGRAMS
AND RELATED TARIFF SHEETS**

PROGRESS ENERGY FLORIDA, INC.

PROGRAM PARTICIPATION STANDARDS

NEW CONSTRUCTION PROGRAM

1. PROGRAM OVERVIEW

The New Construction Program is an “umbrella” program designed to improve the energy efficiency in the following three new construction segments:

Section A. Residential Site Built

Section B. Manufactured Homes

Section C. Multi-Family

This program is designed to target major construction markets, so as to minimize lost opportunities. It is the objective of this program to work closely with these different trade allies to build energy efficient housing for Florida’s future.

The program seeks to meet the following overall goals:

1. Educate builders about energy efficient new construction building design to create a supply of energy efficient homes.
2. Educate perspective buyers and real estate agents about the benefits of energy efficient home design to increase the demand for energy efficient homes.
3. Obtain energy and demand impacts that are significant, accurate, sustainable and measurable.
4. Evaluate cost-effective measures for the marketplace.
5. Minimize “lost opportunities” in the new construction market.

The program will provide education and information to the design community and the real estate market on energy efficient building design and construction. This program will pay for the cost of duct testing to educate builders, provide financial incentives for energy efficient equipment, issue a certificate which identifies the home as energy efficient, and offer cooperative advertising to Energy Star developers and builders to promote the New Construction Program.

A. RESIDENTIAL NEW CONSTRUCTION

A.1. OVERVIEW

The Residential New Construction single family site-built segment promotes energy efficient home construction. This will provide customers with more efficient mechanical systems to lower energy consumption combined with improved environmental awareness. This program combines the most efficient measures, in equipment and envelope, to produce the most cost-effective energy efficient home.

The Residential New Construction program defines three levels of eligibility and various options within each level with which a homebuilder may comply in order to receive home certification.

A.2. ELIGIBILITY REQUIREMENTS

1. The home must be either single family detached or single family attached (e.g. townhouses, condos, etc.).
2. The home must be new -- additions do not qualify for this Residential New Construction program.
3. A Residential New Construction builder or builder/owner meeting Progress Energy Florida, Inc. (PEF) standards must build the home. The builder must comply with all Federal, State, and local codes.
4. The home must be accessible for verification of Residential New Construction Program standards by a PEF employee or representative.
5. The home must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an all electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat.

A.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any contractor failing to meet manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Cooling unit sizing may not exceed the calculated whole house load by 15% or 6,000 Btuh, whichever is larger.

3. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240/94 or by a PEF-recognized engineering standard using sound engineering estimates.
4. Minimum wall insulation is R-4 for masonry and R-11 for frame.
5. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.
6. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified and be installed on an electric water heater.
7. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
8. If the installed equipment uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor or builder shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
9. Attic Radiant Barrier Systems shall have an emissivity rating ≤ 0.06 . as demonstrated by independent laboratory testing according to ASTM C-1371-97.
10. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) $< .50$ and a U-value $< .75$. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

A.2.2 CONTRACTOR¹ REQUIREMENTS

1. Contractors shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.
2. Refrigerant charge and type shall follow manufacturer's recommendations for the unit installed. The contractor will certify that the unit has been tested and is leak free.
3. All participating contractors must comply with PEF contractor procedures specific to the level for which they are participating.

¹ Contractor and manufacturer are synonymous.

4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program.
5. It is the responsibility of the PEF employee or representative to encourage each builder to move up to either Level Two or Level Three.
6. The contractor must correct any deficiency found in the installation or product when advised by a PEF employee or representative, and notify the PEF employee or representative of compliance within 30 days.
7. The contractor shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.
8. Must meet the Residential New Construction technical specifications of either Level One, Level Two, or Level Three.
9. If the builder has a model center, PEF will pay to test the duct system for one home per model center to educate the builder as to why duct leakage is undesirable. If the builder does not have a model center, the builder's residence or the home the builder is currently constructing may be used for demonstration purposes.
10. The builder or his representative and the builder's air conditioning contractor must be present at the time the educational duct test is conducted. If the builder agrees to participate in Level One prior to the educational test and the air conditioning contractor is already participating in the Residential New Construction Program, then no educational test is required. If an educational duct test is required, a PEF employee or representative must be present.
11. The builder must correct any problems discovered during the duct test before that builder may become certified in the Residential New Construction Program.
12. An incentive of \$15 will be paid to the builder or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water heating portion of the installation.
13. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

A.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

The Residential New Construction Program defines three levels of eligibility and various options within each level that a homebuilder must comply in order to receive home certification.

A.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems that meet PEF standards specifications (see Section A.2.1, item 7).

A.3.2 LEVEL TWO

Meet Level One requirements, *and* install a high efficiency electric heat pump with a minimum cooling efficiency of 13 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5 HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER with a minimum heating efficiency of 8.0 HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. *Plus one of the following:*

1. Construct duct system in accordance with Manual D
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system.
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. Install -high performance windows with a Solar Heat Gain Coefficient (SHGC) of $\leq .50$ and a U-Factor of $\leq .75$.

A.3.3 LEVEL THREE

Homes built under this level shall install the following measures:

- Homes must meet Level One and Level Two requirements
- Duct leakage of total air handler rated flow shall be $\leq 5\%$ to unconditioned spaces at 25 Pascals.

Homes shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.

* Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives.

A.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

A.4. INCENTIVES

The incentive payment structure builds on thermal and mechanical efficiencies as follows:

Level	Incentive		Requirements	Minimum Cooling Efficiency		Minimum Heating Efficiency	
				EER	SEER	HSPF	COP
Level One	One Free Educational Duct Test and promotional literature		Home must have a centrally ducted heat pump system and meet PEF duct sealing specifications				
Level Two	Incentive from Level One Plus	\$100	Level One and a high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R19 attic insulation with radiant barrier system		13	7.5	
		\$100	Ground source heat pump	11			3.8
		\$300	Level One and a high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R 19 attic insulation with radiant barrier system		14	8	
		\$300	Ground source heat pump	11.7			4.10
		\$100	Level One and high efficiency electric heat pump, and a Heat Recovery Unit				
		\$200	Level One and high efficiency electric heat pump, and a Heat Pump Water Heater				

		\$350	Level I and high performance windows	U – Factor	Solar Heat Gain Coefficient
				<.75	<.50
Level Three	Incentive from Levels One & Two, plus PEF will match on a 50/50 basis up to \$50 per qualified home/account for Co-Op advertising		Home must meet all Level Three qualifying measures and qualify for EPA’s Energy Star Program (Refer to A.3.3)		

A.5. INCENTIVE PROCESSING

1. The PEF employee, builder or HVAC contractor will complete an Residential New Construction Program form which will record as a minimum the following information: builder’s name, subdivision, address or lot and block of certified home, Level number, equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC)
2. The Residential New Construction program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).
3. The builder or HVAC contractor will sign and date the form, and retain a copy.
4. If the home is assigned for inspection, the original Residential New Construction Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
5. If the home is not assigned for inspection, or after it has passed inspection, builder’s invoices will be processed for payment.
6. PEF will then input “work completed” and “amount paid” to the customer database and file a copy of the program forms by builder.

A.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

B. RESIDENTIAL MANUFACTURED NEW HOME

B.1. OVERVIEW

The Residential Manufactured New Home (segment promotes energy efficient manufactured home construction. This will provide customers with more efficient mechanical systems to lower energy consumption combined with improved environmental awareness. PEF will work closely with this market segment to educate manufacturers and developers about energy efficient new construction building design to create a supply of energy efficient manufactured homes.

B.2. ELIGIBILITY REQUIREMENTS

1. The home must be either single family manufactured detached or single family manufactured attached.
2. The home must be new -- additions do not qualify for this Residential Manufactured New Home program.
3. A Residential Manufactured New Home manufacturer meeting PEF standards must build the home. Manufacturer must comply with all HUD or DCA requirements. Developers or retailers must follow all procedures to ensure proper installation of high efficiency equipment.
4. The home must be accessible for verification of Residential Manufactured New Home Program standards by a PEF employee or representative.
5. The home must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat.

B.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any HVAC contractor failing to meet HVAC manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards or by a PEF-recognized engineering standard using sound engineering estimates.
3. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.

4. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified, and be installed on an electric water heater.
5. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
6. If the equipment installed uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor, manufacturer or developer shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
7. Attic Radiant Barrier Systems shall have an emissivity rating of ≤ 0.06 as demonstrated by independent laboratory testing according to ASTM C-1371-97.
8. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) $< .50$ and a U-value $< .75$. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

B.2.2 MANUFACTURER³ REQUIREMENTS

1. Manufacturers shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.
2. Refrigerant charge and type shall follow HVAC manufacturer's recommendations for the unit installed. The manufacturer, developer or HVAC Contractor will certify that the unit has been tested and is leak free.
3. All participating manufacturers or developers must comply with PEF manufacturer procedures specific to the level for which they are participating.
4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program
5. It is the responsibility of the PEF employee or representative to encourage each manufacturer, or interested party to move up to Level Two or Level Three.

³ Contractor and manufacturer are synonymous.

6. The manufacturer, HVAC contractor or developer must correct any deficiency found in the installation or product when advised by a PEF employee or representative and notify the PEF employee or representative of compliance within 30 days.
7. The manufacturer or developer shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.
8. Must meet the Residential Manufactured New Home technical specifications of either Level One, Level Two, or Level Three.
9. If the manufacturer or developer has a model center, PEF will pay to test the duct system for one home per model center to educate the manufacturer or developer as to why duct leakage is undesirable. If the manufacturer or developer does not have a model center, the manufacturer or developer shall supply a home to be used for testing and educational purposes.
10. The manufacturer or developer or his representative and the manufacturer's air conditioning contractor must be present at the time the educational duct test is conducted. If the manufacturer or developer agrees to participate in Level One prior to the educational test, and the air conditioning contractor is familiar with the Residential Manufactured New Home Program requirements, then no test is required. If an educational duct test is required, a PEF employee or representative must be present.
11. The manufacturer or developer must correct any problems discovered during the duct test before that manufacturer or developer may become certified in the Residential Manufactured New Home Program.
12. An incentive of \$15 will be paid to the retailer, developer or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water-heating portion of the installation.
13. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

B.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

The Residential Manufactured New Home Program defines three levels of eligibility and various options within each level with which a home manufacturer or developer may comply in order to receive home certification.

B.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems which meet PEF standards (see Section B.2.1, item 5).

B.3.2 LEVEL TWO

Meet Level One requirements, and install a high efficiency heat pump with a minimum cooling efficiency of 13.0 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5 HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER, with a minimum heating efficiency of 8.0 HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. *Plus one of the following:*

1. Construct duct system in accordance with Manual D.
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system.
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. High performance windows with a Solar Heat Gain Coefficient of $\leq .50$ and a U-Factor of $\leq .75$.

B.3.3 LEVEL THREE

Manufactured homes built under this level shall install the following measures:

- Homes must meet Level One and Level Two requirements
- Duct leakage of total air handler rated flow shall be $\leq 5\%$ to unconditioned spaces at 25 Pascals.

Homes shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.

*Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives

B.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

B.4. Incentives

The incentive payment structure builds on thermal and mechanical efficiencies as follows:

Level	Incentive	Requirements	Minimum Cooling Efficiency		Minimum Heating Efficiency	
			EER	SEER	HSPF	COP
Level One	One Free Educational Duct Test and promotional literature	Residency/unit must have centrally ducted heat pump system and meet PEF duct sealing specifications				

Level Two	Incentive from Level One Plus	\$100	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R-19 attic insulation with radiant barrier system		13	7.5		
		\$100	Ground source heat pump	11			3.8	
		\$300	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation, or R 19 attic insulation with radiant barrier system		14	8		
		\$300	Ground source heat pump	11.7			4.10	
		\$100	Level One and high efficiency electric heat pump, and a Heat Recovery Unit					
		\$200	Level One and high efficiency electric heat pump, and a Heat Pump Water Heater					
		\$350	Level One and High Performance Windows	U-Factor		Solar Heat Gain Coefficient		
				<.75		<.50		
Level Three	Incentive from Levels One & Two, plus PEF will match on a 50/50 basis up to \$50 tper home/account for Co-Op advertising	Home(s) must meet Level Three qualifying measures and qualify for EPA's Energy Star Program (Refer to B.3.3)						

B.5. INCENTIVE PROCESSING

1. The PEF employee or representative, manufacturer, HVAC contractor, or park owner will complete a Residential Manufactured New Home Program form which will record as a minimum the following information: manufacturer's name, subdivision, address or lot and block of certified home, Level number, equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC).
2. The Residential New Construction Program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).

3. The manufacturer, developer, retailer or park owner will sign and date the form, and retain a copy.
4. If the home is assigned for inspection, the original Residential Manufactured New Home Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
5. If the home is not assigned for inspection, or after it has passed inspection, builder's invoices will be processed for payment.
6. PEF will then input "work completed" and "amount paid" to the customer database and file a copy of the program forms by manufacturer

B.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

C. MULTI-FAMILY NEW CONSTRUCTION

C.1. OVERVIEW

The Multi-Family New Construction segment promotes energy efficient new building construction in order to ensure that energy efficient rental apartments are available for customers.

It is PEF's objective to educate developers and property Management Companies about energy efficient new construction building design to create a supply of efficient multi-family rental apartments. In addition, educate customers and leasing agents about the benefits of energy efficient unit design to create the demand for energy efficient multi-family rental homes.

C.2. ELIGIBILITY REQUIREMENTS

1. The residency/unit must be multi-family rental, where multi-family is defined as any residential dwelling unit that is attached to another unit by a common wall, ceiling or floor. Any multi-family residential dwellings that are mastered metered (referred to as "Domestic/Commercial") shall be eligible to participate in this program.
2. The residency/unit must be new -- additions do not qualify for this Multi-Family New Construction program.
3. An Multi-Family New Construction builder, owner or agency meeting PEF standards must build the residency/unit. The builder must be a licensed building contractor and must comply with all Federal, State, and local codes.
4. The residency/unit must be accessible for verification of Multi-Family New Construction Program standards by a PEF employee or representative.
5. The residency/unit must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat. (*Exception: If the Building is over three stories in height, electric strip is allowed if a heat pump is not cost effective to install.*)

C.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any contractor failing to meet manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240/94 or by a PEF-recognized engineering standard using sound engineering estimates.
3. Minimum wall insulation is R-4 for masonry and R-11 for frame.
4. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.
5. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified, and be installed on an electric water heater.
6. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
7. If the equipment installed uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor or builder shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
8. Attic Radiant Barrier Systems shall have an emissivity rating of ≤ 0.06 as demonstrated by independent laboratory testing according to ASTM C-1371-97.
9. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) $< .50$ and a U-value $< .75$. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

C.2.2 Contractor Requirements

1. Contractors shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.

2. Refrigerant charge and type shall follow manufacturer's recommendations for the equipment installed. The contractor will certify that the equipment has been tested and is leak free.
3. All participating contractors must comply with PEF contractor procedures specific to the level for which they are participating.
4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program
5. The contractor must correct any deficiency found in the installation or product when advised by a PEF employee or representative and notify the PEF employee or representative of compliance within 30 days.
6. The contractor shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.
7. Must meet the Multi-Family New Construction technical specifications of either Level One, Level Two, or Level Three.
8. If the builder has a model apartment, PEF will pay to test the duct system for one residency/unit per model center to educate the builder as to why duct leakage is undesirable. If the builder does not have a model apartment or the residency/unit the builder is currently constructing may be used for demonstration purposes.
9. The builder or his representative and the builder's air conditioning contractor must be present at the time the educational duct test is conducted. If the builder agrees to participate in Level One prior to the educational test and the air conditioning contractor is already participating in the Multi-Family New Construction Program, then no educational test is required. If an educational duct test is required, a PEF employee or representative must be present.
10. The builder must correct any problems discovered during the duct test before that builder may become certified in the Multi-Family New Construction Program.
11. An incentive of \$15 will be paid to the builder or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water heating portion of the installation.
12. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

C.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

The Multi-Family New Construction Program defines three levels of eligibility and various options within each level which a builder may comply in order to receive a building certification.

C.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems, which meet PEF specifications (see Section C.2.1, item 7).

C.3.2 LEVEL TWO

Meet Level One requirements, and install a high efficiency heat pump with a minimum cooling efficiency of 13.0 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER, with a minimum heating efficiency of 8.0HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. *Plus one of the following:*

1. Construct duct system in accordance with Manual D
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system. (Top floor only, all units).
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. High performance windows with a Solar Heat Gain Coefficient of $\leq .50$ and a U-Factor of $\leq .75$.

C.3.3 LEVEL THREE

Residency/units built under this level shall install the following measures:

- Residency/units must meet Level One and Level Two requirements..
- Duct leakage of total air handler rated flow shall be $\leq 5\%$ to unconditioned spaces at 25 Pascals

Units shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.* Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives.

C.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

C.4. INCENTIVES

The incentive payment structure builds on thermal and mechanical efficiencies as follows:

Level	Incentive	Requirements	Minimum Cooling Efficiency	Minimum Heating Efficiency
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			EER	SEER	HSPF	COP		
Level One	One Free Educational Duct Test and promotional literature		Residency/unit must have centrally ducted system and meet PEF duct sealing specifications					
		\$100	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R-19 attic insulation with radiant barrier system					
Level Two	Incentive from Level One Plus	\$100	Ground source heat pump					
		\$300	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R-19 attic insulation with radiant barrier system					
		\$300	Ground source heat pump					
		\$100	Level One and high efficiency electric heat pump, and a Heat Recovery Unit					
		\$200	Level One and high efficiency electric heat pump, and a Heat Pump Water Heater					
		\$350	Level One and high performance windows		U-Factor		Solar Heat Gain Coefficient	
					<.75		<.50	
Level Three	Incentive from Levels One & Two, Plus PEF will match on a 50/50 basis up to \$50 in co-op advertising per unit		Residency/unit must install Level Three qualifying measures and qualify for EPA's Energy Star Program (Refer to section C.3.3)					

C.5. INCENTIVE PROCESSING

1. The PEF employee, builder or HVAC contractor will complete an Multi-Family New Construction Program form which will record as a minimum the following information: builder's name, name of complex, address(s) or apartment numbers of certified residency/unit. Level Number (i.e.: 1, 2, 3), equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC).
2. The Residential New Construction Program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).
3. If payment is to be made to someone other than the builder, then the following information is required: Payee's name, address, Relationship to complex (Owner, Manager), name of complex, address(s) or apartment numbers of certified residency/unit. Level Number (i.e.: 1, 2, 3), equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP).
4. The builder/owner or HVAC contractor will sign and date the form, and retain a copy.
5. When the complex is assigned for inspection, the original Multi-Family New Construction Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
6. PEF will then input "work completed" and "amount paid" to the customer database and file copies of the program form by builder.

C.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

PROGRESS ENERGY FLORIDA, INC.

PROGRAM PARTICIPATION STANDARDS RESIDENTIAL ENERGY MANAGEMENT (RATE SCHEDULES RSL-1 AND RSL-2)

1. PROGRAM OVERVIEW

The Residential Energy Management Program is a direct load control program that reduces Progress Energy Florida, Inc. (PEF)'s demand during peak or emergency conditions by temporarily interrupting customer equipment (electric central heating and water heater) for specified periods of time. Customers currently on Rate Schedule RSL-1 or RSL-2 may remain on RSL-1 or RSL-2 unless they choose to exit the program or make any equipment schedule changes. Any RSL-1 or RSL-2 customers who elect to exit the program will only be eligible for the RSL-2 rate schedule. New program participants (i.e., customers not currently on RSL-1 or RSL-2) will only be eligible for the RSL-2 rate schedule with heat pump option.

Service under the RSL-1 and RSL-2 rate schedules is subject to PEF's currently effective and filed "General Rules and Regulations for Electrical Service." Standby or resale is not permitted under either of these rate schedules.

2. ELIGIBILITY REQUIREMENTS

1. The residence must be in PEF's service area and be within the range of the Company's Energy Management system.
2. The customer must be eligible for residential service under Rate Schedule RSL-1 or RSL-2 (*see the RSL-1 and RSL-2 tariffs*).

2.1 PARTICIPATION REQUIREMENTS

1. Must utilize both electric water heating and centrally ducted electric heating system(s).
2. Participants on the **RSL-2** rate schedule shall have a minimum average monthly usage of 600 kWh for the months of November through March (based on the most recent billing history or, where not available, a projection for those months).
3. All installations must be accessible for inspection by a PEF employee or representative.
4. A PEF-approved, licensed contractor must complete all work.

5. Any customer requesting removal from this program will be ineligible to participate for a period of twelve months.

2.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All installations must comply with all provisions of the National Electric Code (NEC) and any code or requirement of other authorities having jurisdiction.
2. The contractor shall comply with all Residential Energy Management Program Standards as specified by PEF and stated in the most current copy of the Energy Management Operations Manual.

2.3 CONTRACTOR REQUIREMENTS

1. Contractors participating in the installation of Energy Management equipment must meet the financial criteria set forth in the PEF Purchasing Standards for contractors doing business with PEF.
2. PEF reserves the right to request background checks of contractors participating in the Residential Energy Management Program.
3. All contractors installing Energy Management devices within the confines of Pinellas County must hold an electrical contractor's license and be approved by the Pinellas County Construction Licensing Board to practice in Pinellas County. All contractor employees who are certified to install Energy Management must hold an electrical journeyman's card or greater. Those contractors outside of Pinellas County must comply with the licensing requirements of the area in which they are contracted to do installations.
4. The contractor must comply with all Federal, State and local licensing, codes and regulations.
5. Contractors are responsible for the work to be performed, the necessary tools and equipment, and the supervision of employees in order to meet the work specifications and the required completion date.
6. Contractors shall indemnify and hold PEF harmless against any and all injuries, damages; claims or cost, whatsoever caused by items furnished or services performed.
7. Contractors must be insured as per specifications in the bid agreement (Services and General Terms & Conditions form).

3. INCENTIVES

The various options and associated credits are shown in the RSL-1 and RSL-2 tariffs.

4. INCENTIVE PROCESSING

Customers on the RSL-2 rate schedule will be eligible to receive a monthly credit on their electric bill for the billing months of November through March only. Customers on the RSL-1 rate schedule will be eligible to receive a monthly credit during every month of the year.

5. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021 (5) of the Florida Administrative Code.

**RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT – WINTER ONLY**

Availability:

Available only within the range of the Company's load management system.

Applicable:

To Customers eligible for residential service under Rate ~~Schedule RS-1 or RSS-1~~ having a minimum average monthly usage of 600 kWh for the months of November through March (based on the most recent billings or, where not available, a projection for those months), and utilizing both an electric water heater and an electric central heating system:

Character of Service:

Continuous service, alternating current, 60 cycle, single-phase, at the Company's standard distribution secondary voltage available. Three-phase service, if available, will be supplied only under the conditions set forth in the Company's booklet "Requirements for Electric Service and Meter Installations."

Limitation of Service:

Service to the electrical equipment specified above may be interrupted at the option of the Company by means of load management devices installed on the Customer's premises.

Standby or resale service not permitted hereunder. Service under this rate schedule is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

Rate Per Month:

Customer Charge:	\$ 8.03
Energy and Demand Charges:	
Non-Fuel Energy Charges:	
First 1,000 kWh	3.315¢ per kWh
All additional kWh	4.315¢ per kWh
plus an Energy Conservation Cost Recovery Factor:	See Sheet No. 6.105
plus a Capacity Cost Recovery Factor:	See Sheet No. 6.105
plus an Environmental Cost Recovery Clause Factor:	See Sheet No. 6.105

Additional Charges:

Fuel Cost Recovery Factor:	See Sheet No. 6.105
Gross Receipts Tax Factor:	See Sheet No. 6.106
Right-of-Way Utilization Fee:*	See Sheet No. 6.106
Municipal Tax:*	See Sheet No. 6.106
Sales Tax:*	See Sheet No. 6.106

* If applicable

Load Management Credit Amount:¹

<u>Interruptible Equipment</u>	<u>Monthly Credit²</u>
Water Heater and Central Heating System ³	\$11.50

Notes: (1) Load management credits shall not exceed 40% of the Non-Fuel Charge associated with kWh consumption in excess of 600 kWh/month.

(2) For billing months of November through March only.

(3) For heat pump systems the Company may, at its option, interrupt the secondary resistance heating elements for the entire designated Peak Period, in which case the primary heat pump system will not be subject to interruption.

Equipment Interruption Schedule:

Central Heating	Equipment interruptions will not exceed an accumulated total of 16.5 minutes during any 30 minute interval within the Company's designated Peak Periods, except as provided in Note (3) above.
Water Heater	Equipment may be interrupted continuously, not to exceed 300 minutes, during the Company's designated Peak Periods.

(Continued on Page No. 2)

**RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT – WINTER ONLY
(Continued from Page No. 1)**

Peak Periods:

The designated Peak Periods, expressed in terms of prevailing clock time and subject to Special Provision 5 below, are as follows:

For the calendar months of November through March – All Days: 6:00 a.m. to 11:00 a.m., and
6:00 p.m. to 10:00 p.m.

Terms and Conditions:

All terms and conditions of Rate Schedule RS-1, Residential Service, including Fuel Charges and other Billing Adjustments, Minimum Monthly Bill, Terms of Payment, Term of Service, and Budget Billing Plan, shall apply to service under this rate schedule.

Special Provisions:

1. The Company shall be allowed reasonable access to the Customer's premises to install, maintain, inspect, test or remove the load management devices for the electrical equipment specified above.
2. Prior to the installation of load management devices, the Company may inspect the Customer's electrical equipment specified above to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of such equipment.
3. The Company shall not be required to install load management devices on electrical equipment which would not be economically justified for reasons, such as excessive installation costs, insufficient load, oversized heating equipment, or abnormal utilization of the electrical equipment, including but not limited to, seasonal or other limited occupancy residences or common use facilities.
4. Multiple units of any electrical equipment specified above must all be installed with load management devices to qualify for the load management credit under this rate schedule.
5. The limitations on equipment interruptions contained in this rate schedules shall not apply during critical capacity conditions on the Company's system; nor shall limitations apply at times the Company requires additional generating resources to maintain firm power sales commitments or supply emergency interchange service to another utility for its firm load obligations only. The Company may also exercise equipment interruptions at any time for the purpose of testing or evaluating the performance of its load management system.
6. If the Company determines that the load management devices installed on a Customer's premises have been tampered with, the Company may discontinue service under this rate schedule and bill for all prior load management credits received by the Customer, unless the tampering date can be established to the Company's satisfaction, plus applicable investigative charges.
7. Billing under this rate schedule will commence with the first complete billing period following installation of the load management devices. A Customer may transfer to another rate schedule by notifying the Company at least forty-five (45) days in advance, however the Customer will not be eligible service under this rate schedule for 12 months from the date of the transfer.
8. If the Company determines that the effect of equipment interruptions has been offset by the Customer's use of supplementary or alternative electrical equipment, or if access cannot be obtained by the Company to inspect, maintain, test or remove load management devices, service under this rate schedule may be discontinued and the Customer billed for all prior load management credits received over a period not in excess of six (6) months.

EXHIBIT B

**MODIFICATIONS TO
RESIDENTIAL NEW CONSTRUCTION AND
RESIDENTIAL ENERGY MANAGEMENT DSM PROGRAMS
AND RELATED TARIFF SHEETS
(legislative format)**

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PROGRESS ENERGY FLORIDA, INC.
PROGRAM PARTICIPATION STANDARDS
NEW CONSTRUCTION PROGRAM

1. PROGRAM OVERVIEW

The New Construction Program is an “umbrella” program designed to improve the energy efficiency in the following three new construction segments:

Section A. Residential Site Built

Section B. Manufactured Homes

Section C. Multi-Family

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This program is designed to target major construction markets, so as to minimize lost opportunities. It is the objective of this program to work closely with these different trade allies to build energy efficient housing for Florida’s future.

The program seeks to meet the following overall goals:

1. Educate builders about energy efficient new construction building design to create a supply of energy efficient homes.
2. Educate perspective buyers and real estate agents about the benefits of energy efficient home design to increase the demand for energy efficient homes.
3. Obtain energy and demand impacts that are significant, accurate, sustainable and measurable.
4. Evaluate cost-effective measures for the marketplace.
5. Minimize “lost opportunities” in the new construction market.

The program will provide education and information to the design community and the real estate market on energy efficient building design and construction. This program will pay for the cost of duct testing to educate builders, provide financial incentives for energy efficient equipment, issue a certificate which identifies the home as energy efficient, and offer cooperative advertising to Energy Star developers and builders to promote the New Construction Program.

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A. RESIDENTIAL NEW CONSTRUCTION

A.1. OVERVIEW

The Residential New Construction single family site-built segment promotes energy efficient home construction. This will provide customers with more efficient mechanical systems to lower energy consumption combined with improved environmental awareness. This program combines the most efficient measures, in equipment and envelope, to produce the most cost-effective energy efficient home.

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The Residential New Construction program defines three levels of eligibility and various options within each level with which a homebuilder may comply in order to receive home certification.

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A.2. ELIGIBILITY REQUIREMENTS

1. The home must be either single family detached or single family attached (e.g. townhouses, condos, etc.).
2. The home must be new -- additions do not qualify for this Residential New Construction program.
3. A Residential New Construction builder or builder/owner meeting Progress Energy Florida, Inc. (PEF) standards must build the home. The builder must comply with all Federal, State, and local codes.
4. The home must be accessible for verification of Residential New Construction Program standards by a PEF employee or representative.
5. The home must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an all electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat.

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A.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any contractor failing to meet manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Cooling unit sizing may not exceed the calculated whole house load by 15% or 6,000 Btuh, whichever is larger.

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- 3. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240/94 or by a PEF-recognized engineering standard using sound engineering estimates.
- 4. Minimum wall insulation is R-4 for masonry and R-11 for frame.
- 5. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.
- 6. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified and be installed on an electric water heater.
- 7. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
- 8. If the installed equipment uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor or builder shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
- 9. Attic Radiant Barrier Systems shall have an emissivity rating < 0.06, as demonstrated by independent laboratory testing according to ASTM C-1371-97.
- 10. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) < .50 and a U-value < .75. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

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A.2.2 CONTRACTOR¹ REQUIREMENTS

- 1. Contractors shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.
- 2. Refrigerant charge and type shall follow manufacturer's recommendations for the unit installed. The contractor will certify that the unit has been tested and is leak free.
- 3. All participating contractors must comply with PEF contractor procedures specific to the level for which they are participating.

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¹ Contractor and manufacturer are synonymous.

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4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program.

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5. It is the responsibility of the PEF employee or representative to encourage each builder to move up to either Level Two or Level Three.

6. The contractor must correct any deficiency found in the installation or product when advised by a PEF employee or representative, and notify the PEF employee or representative of compliance within 30 days.

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7. The contractor shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.

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8. Must meet the Residential New Construction technical specifications of either Level One, Level Two, or Level Three.

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9. If the builder has a model center, PEF will pay to test the duct system for one home per model center to educate the builder as to why duct leakage is undesirable. If the builder does not have a model center, the builder's residence or the home the builder is currently constructing may be used for demonstration purposes.

10. The builder or his representative and the builder's air conditioning contractor must be present at the time the educational duct test is conducted. If the builder agrees to participate in Level One prior to the educational test and the air conditioning contractor is already participating in the Residential New Construction Program, then no educational test is required. If an educational duct test is required, a PEF employee or representative must be present.

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11. The builder must correct any problems discovered during the duct test before that builder may become certified in the Residential New Construction Program.

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12. An incentive of \$15 will be paid to the builder or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water heating portion of the installation.

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13. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

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A.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

The Residential New Construction Program defines three levels of eligibility and various options within each level that a homebuilder must comply in order to receive home certification.

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A.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems that meet PEF standards specifications (see Section A.2.1, item 7).

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A.3.2 LEVEL TWO

Meet Level One requirements, and install a high efficiency electric heat pump with a minimum cooling efficiency of 13 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5 HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER with a minimum heating efficiency of 8.0 HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. Plus one of the following:

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1. Construct duct system in accordance with Manual D
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system.
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. Install high performance windows with a Solar Heat Gain Coefficient (SHGC) of < .50 and a U-Factor of < .75.

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A.3.3 LEVEL THREE

Homes built under this level shall install the following measures:

- Homes must meet Level One and Level Two requirements
- Duct leakage of total air handler rated flow shall be < 5% to unconditioned spaces at 25 Pascals.

Homes shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.

* Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives.

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A.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

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<#>Advertising may be applied to billboards, Parade of Homes, Realtor magazines, or other long-life publications approved by FPC.¶
<#>FPC must approve the advertising prior to placing the ad. .
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<#>FPC reserves the right to withhold payment for advertising which is untruthful or offensive; FPC shall be the final judge.¶
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A.4. INCENTIVES

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The incentive payment structure builds on thermal and mechanical efficiencies as follows:

Level	Incentive		Requirements	Minimum Cooling Efficiency		Minimum Heating Efficiency		
				EER	SEER	HSPF	COP	
Level One	One Free Educational Duct Test <u>and promotional literature</u>		Home must have a centrally ducted heat pump system and meet <u>PEF</u> duct sealing specifications					
Level Two	Incentive from Level One Plus	\$100	Level One and a high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R19 attic insulation with radiant barrier system		13	7.5		
		\$100	Ground source heat pump	11			3.8	
		\$300	Level One and a high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R 19 attic insulation with radiant barrier system		14	8		
		\$300	Ground source heat pump	11.7			4.10	
		\$100	Level One and high efficiency electric heat pump, and a Heat Recovery Unit					
		\$200	Level One and high efficiency electric heat pump, and a Heat Pump Water Heater					

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	\$350	Level I and high performance windows	U – Factor <.75	Solar Heat Gain Coefficient <.50
Level Three	Incentive from Levels One & Two, plus PEF will match on a 50/50 basis up to \$50 per qualified home/account for Co-Op advertising	Home must meet all Level Three qualifying measures and qualify for EPA’s Energy Star Program. (Refer to A.3.3)		

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A.5. INCENTIVE PROCESSING

1. The PEF employee, builder or HVAC contractor will complete an Residential New Construction Program form which will record as a minimum the following information: builder’s name, subdivision, address or lot and block of certified home, Level number, equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC).
2. The Residential New Construction program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).
3. The builder or HVAC contractor will sign and date the form, and retain a copy.
4. If the home is assigned for inspection, the original Residential New Construction Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
5. If the home is not assigned for inspection, or after it has passed inspection, builder’s invoices will be processed for payment.
6. PEF will then input “work completed” and “amount paid” to the customer database and file a copy of the program forms by builder.

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A.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

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B. RESIDENTIAL MANUFACTURED NEW HOME

B.1. OVERVIEW

The Residential Manufactured New Home (segment) promotes energy efficient manufactured home construction. This will provide customers with more efficient mechanical systems to lower energy consumption combined with improved environmental awareness. PEF will work closely with this market segment to educate manufacturers and developers about energy efficient new construction building design to create a supply of energy efficient manufactured homes.

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B.2. ELIGIBILITY REQUIREMENTS

1. The home must be either single family manufactured detached or single family manufactured attached.
2. The home must be new -- additions do not qualify for this Residential Manufactured New Home program.
3. A Residential Manufactured New Home manufacturer meeting PEF standards must build the home. Manufacturer must comply with all HUD or DCA requirements. Developers or retailers must follow all procedures to ensure proper installation of high efficiency equipment.
4. The home must be accessible for verification of Residential Manufactured New Home Program standards by a PEF employee or representative.
5. The home must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat.

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B.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any HVAC contractor failing to meet HVAC manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards or by a PEF-recognized engineering standard using sound engineering estimates.
3. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.

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4. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified, and be installed on an electric water heater.
5. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
6. If the equipment installed uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor, manufacturer or developer shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
7. Attic Radiant Barrier Systems shall have an emissivity rating of < 0.06 as demonstrated by independent laboratory testing according to ASTM C-1371-97.
8. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) < .50 and a U-value < .75. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

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B.2.2 MANUFACTURER³ REQUIREMENTS

1. Manufacturers shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.
2. Refrigerant charge and type shall follow HVAC manufacturer's recommendations for the unit installed. The manufacturer, developer or HVAC Contractor will certify that the unit has been tested and is leak free.
3. All participating manufacturers or developers must comply with PEF manufacturer procedures specific to the level for which they are participating.
4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program
5. It is the responsibility of the PEF employee or representative to encourage each manufacturer, or interested party to move up to Level Two or Level Three.

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³ Contractor and manufacturer are synonymous.

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6. The manufacturer, HVAC contractor or developer must correct any deficiency found in the installation or product when advised by a PEF employee or representative and notify the PEF employee or representative of compliance within 30 days.

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7. The manufacturer or developer shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.

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8. Must meet the Residential Manufactured New Home technical specifications of either Level One, Level Two, or Level Three.

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9. If the manufacturer or developer has a model center, PEF will pay to test the duct system for one home per model center to educate the manufacturer or developer as to why duct leakage is undesirable. If the manufacturer or developer does not have a model center, the manufacturer or developer shall supply a home to be used for testing and educational purposes.

10. The manufacturer or developer or his representative and the manufacturer's air conditioning contractor must be present at the time the educational duct test is conducted. If the manufacturer or developer agrees to participate in Level One prior to the educational test, and the air conditioning contractor is familiar with the Residential Manufactured New Home Program requirements, then no test is required. If an educational duct test is required, a PEF employee or representative must be present.

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11. The manufacturer or developer must correct any problems discovered during the duct test before that manufacturer or developer may become certified in the Residential Manufactured New Home Program.

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12. An incentive of \$15 will be paid to the retailer, developer or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water-heating portion of the installation.

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13. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

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B.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

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The Residential Manufactured New Home Program defines three levels of eligibility and various options within each level with which a home manufacturer or developer may comply in order to receive home certification.

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B.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems which meet PEF standards (see Section B.2.1, item 5).

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B.3.2 LEVEL TWO

Meet Level One requirements, and install a high efficiency heat pump with a minimum cooling efficiency of 13.0 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5 HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER, with a minimum heating efficiency of 8.0 HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. Plus one of the following:

1. Construct duct system in accordance with Manual D.
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system.
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. High performance windows with a Solar Heat Gain Coefficient of < .50 and a U-Factor of < .75.

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B.3.3 LEVEL THREE

Manufactured homes built under this level shall install the following measures:

- Homes must meet Level One and Level Two requirements
- Duct leakage of total air handler rated flow shall be < 5% to unconditioned spaces at 25 Pascals.

Homes shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.

*Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives

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B.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

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<#>Advertising may be applied to billboards, Parade of Homes, Realtor magazines, or other long-life publications approved by FPC.¶
<#>FPC must approve the advertising prior to placing the ad. .
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<#>FPC reserves the right to withhold payment for advertising which is untruthful or offensive; FPC shall be the final judge.¶

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B.4. Incentives

The incentive payment structure builds on thermal and mechanical efficiencies as follows:

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Level	Incentive	Requirements	Minimum Cooling Efficiency		Minimum Heating Efficiency	
			EER	SEER	HSPF	COP
Level One	One Free Educational Duct Test and promotional literature	Residency/unit must have centrally ducted heat pump system and meet PEF duct sealing specifications				

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Level Two	Incentive from Level One Plus	\$100	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation or R-19 attic insulation with radiant barrier system		13	7.5	
		\$100	Ground source heat pump	11			3.8
		\$300	Level One and high efficiency electric heat pump, plus Manual D duct design or R-30 attic insulation, or R 19 attic insulation with radiant barrier system		14	8	
		\$300	Ground source heat pump	11.7			4.10
		\$100	Level One and high efficiency electric heat pump, and a Heat Recovery Unit				
		\$200	Level One and high efficiency electric heat pump, and a Heat Pump Water Heater				
		\$350	Level One and High Performance Windows		U-Factor	Solar Heat Gain Coefficient	
			<.75	<.50			
Level Three	Incentive from Levels One & Two, plus PEF will match on a 50/50 basis up to \$50 per home/account for Co-Op advertising	Home(s) must meet Level Three qualifying measures and qualify for EPA's Energy Star Program (Refer to B.3.3)					

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B.5. INCENTIVE PROCESSING

1. The PEF employee or representative, manufacturer, HVAC contractor, or park owner will complete a Residential Manufactured New Home Program form which will record as a minimum the following information: manufacturer's name, subdivision, address or lot and block of certified home, Level number, equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC).
2. The Residential New Construction Program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).

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- 3. The manufacturer, developer, retailer or park owner will sign and date the form, and retain a copy.
- 4. If the home is assigned for inspection, the original Residential Manufactured New Home Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
- 5. If the home is not assigned for inspection, or after it has passed inspection, builder's invoices will be processed for payment.
- 6. PEF will then input "work completed" and "amount paid" to the customer database and file a copy of the program forms by manufacturer

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B.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

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C. MULTI-FAMILY NEW CONSTRUCTION

C.1. OVERVIEW

The Multi-Family New Construction segment promotes energy efficient new building construction in order to ensure that energy efficient rental apartments are available for customers.

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It is PEF's objective to educate developers and property Management Companies about energy efficient new construction building design to create a supply of efficient multi-family rental apartments. In addition, educate customers and leasing agents about the benefits of energy efficient unit design to create the demand for energy efficient multi-family rental homes.

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C.2. ELIGIBILITY REQUIREMENTS

1. The residency/unit must be multi-family rental, where multi-family is defined as any residential dwelling unit that is attached to another unit by a common wall, ceiling or floor. Any multi-family residential dwellings that are mastered metered (referred to as "Domestic/Commercial") shall be eligible to participate in this program.
2. The residency/unit must be new -- additions do not qualify for this Multi-Family New Construction program.
3. An Multi-Family New Construction builder, owner or agency meeting PEF standards must build the residency/unit. The builder must be a licensed building contractor and must comply with all Federal, State, and local codes.
4. The residency/unit must be accessible for verification of Multi-Family New Construction Program standards by a PEF employee or representative.
5. The residency/unit must be located in PEF's service area and must be metered by PEF.
6. The heating source must be an electric heat pump(s). No resistance heat is allowed except as back-up supplemental heat. (*Exception: If the Building is over three stories in height, electric strip is allowed if a heat pump is not cost effective to install.*)

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C.2.1 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturer's instructions and specifications. Any contractor failing to meet manufacturer's specifications and PEF procedures may result in termination of participation in any or all PEF programs.
2. Equipment specification shall be according to Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240/94 or by a PEF-recognized engineering standard using sound engineering estimates.
3. Minimum wall insulation is R-4 for masonry and R-11 for frame.
4. Equipment information such as model numbers, manufacturers, and Btuh capacity shall be made accessible to the PEF employee or representative.
5. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified, and be installed on an electric water heater.
6. Only mastic and fiber cloth or mastic with embedded fiber (mixed) may be used to seal the duct system. Duct tape may be used to hold the duct in place while the mastic is drying. If duct tape is used the mastic must cover the duct tape completely and extend a minimum of 2" past the width of the duct tape. Mastic must meet UL181 specifications for the material that the mastic is being applied to.
7. If the equipment installed uses a scroll compressor larger than 36,000 Btuh, the air conditioning contractor or builder shall certify that a hard start kit was installed by the air conditioning contractor or the factory.
8. Attic Radiant Barrier Systems shall have an emissivity rating of < 0.06 as demonstrated by independent laboratory testing according to ASTM C-1371-97.
9. High performance windows must be labeled by the National Fenestration Rating Council (NFRC) as achieving a Solar Heat Gain Coefficient (SHGC) < .50 and a U-value < .75. Decorative glass is exempt provided its total area does not exceed 15% of the total glass area of the home.

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C.2.2 Contractor Requirements

1. Contractors shall certify that the airflow meets manufacturer's specifications and recommendations for the system installed.

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2. Refrigerant charge and type shall follow manufacturer's recommendations for the equipment installed. The contractor will certify that the equipment has been tested and is leak free.

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3. All participating contractors must comply with PEF contractor procedures specific to the level for which they are participating.

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4. PEF reserves the right to request background checks of contractors participating in the Residential New Construction Program

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5. The contractor must correct any deficiency found in the installation or product when advised by a PEF employee or representative and notify the PEF employee or representative of compliance within 30 days.

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6. The contractor shall indemnify and hold PEF harmless against any and all injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.

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7. Must meet the Multi-Family New Construction technical specifications of either Level One, Level Two, or Level Three.

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8. If the builder has a model apartment, PEF will pay to test the duct system for one residency/unit per model center to educate the builder as to why duct leakage is undesirable. If the builder does not have a model apartment or the residency/unit the builder is currently constructing may be used for demonstration purposes.

9. The builder or his representative and the builder's air conditioning contractor must be present at the time the educational duct test is conducted. If the builder agrees to participate in Level One prior to the educational test and the air conditioning contractor is already participating in the Multi-Family New Construction Program, then no educational test is required. If an educational duct test is required, a PEF employee or representative must be present.

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10. The builder must correct any problems discovered during the duct test before that builder may become certified in the Multi-Family New Construction Program.

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11. An incentive of \$15 will be paid to the builder or HVAC contractor completing the paperwork required by this program. This incentive is not to exceed \$15 regardless of the number of heat pump systems installed at any one PEF account (address). If alternate water heating is installed along with a heat pump, the incentive will not be paid on the water heating portion of the installation.

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12. To be eligible for level two incentives, a completed incentive form must be received by the Company within six months of permanent electric service activation for the account.

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C.3. TECHNICAL SPECIFICATIONS ON EQUIPMENT ELIGIBILITY

The Multi-Family New Construction Program defines three levels of eligibility and various options within each level which a builder may comply in order to receive a building certification.

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C.3.1 LEVEL ONE

Must incorporate any changes to the duct system that are indicated by the educational duct test, and construct duct systems, which meet PEF specifications (see Section C.2.1, item 7).

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C.3.2 LEVEL TWO

Meet Level One requirements, and install a high efficiency heat pump with a minimum cooling efficiency of 13.0 SEER (Seasonal Energy Efficiency Rating), with a minimum heating efficiency of 7.5 HSPF (Heating Season Performance Factor), or install a higher efficiency heat pump with a minimum cooling efficiency of 14 SEER, with a minimum heating efficiency of 8.0 HSPF. Ground source heat pumps must achieve a 3.5 COP (Coefficient of Performance) or higher. *Plus one of the following:*

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1. Construct duct system in accordance with Manual D
2. Install a minimum of R-30 attic insulation or R-19 attic insulation with radiant barrier system. (Top floor only, all units).
3. Install a heat recovery unit.
4. Install a dedicated heat pump water heater.
5. High performance windows with a Solar Heat Gain Coefficient of < .50 and a U-Factor of < .75.

C.3.3 LEVEL THREE

Residency/units built under this level shall install the following measures:

- Residency/units must meet Level One and Level Two requirements.
- Duct leakage of total air handler rated flow shall be < 5% to unconditioned spaces at 25 Pascals

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Units shall also meet performance guidelines as defined by the US Environmental Protection Agency's (EPA) Energy Star Program.* Homes may qualify at Level Three with 12 SEER and 7 HSPF heat pump or greater efficiencies, but will not be eligible for equipment incentives.

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C.3.4 COOPERATIVE ADVERTISING

The following specifications must be met to be eligible for cooperative advertising:

1. PEF offers co-op incentive funds at the rate of \$50 per home/unit built to the Residential New Construction Program level three/Energy Star requirements.
2. Co-op funds are available after construction is completed, electric meters are set, and units pass inspection by PEF.
3. A variety of media may be purchased with co-op funds: TV, radio, daily newspaper, direct mail, point-of-purchase materials, home; apartment and manufactured-housing magazines if mutually agreed upon in advance.
4. PEF will pay 50% of the cost of advertising, not to exceed the total co-op funds earned by the partner.
5. A minimum of 25% of the ad content must promote energy efficiency and the PEF partnership.
6. Partners may choose to incorporate content provided by PEF into their advertising or may choose, instead, to use an ad created by PEF and modified by the partner to include partner's advertising messages.
7. PEF must approve a proof of the final advertising materials prior to production. Two business days are needed to proof and approve the advertising materials.
8. Co-op funds must be used within 6 months of completed construction.
9. Partner is reimbursed for co-op advertising after advertising has run or after printed materials have been produced.
10. For co-op reimbursement, a media invoice or printer's invoice, accompanied by five (5) samples, must be submitted to your PEF Residential New Construction Representative.
11. PEF reserves the right to withhold payment for advertising which it deems to be untruthful or offensive.

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- <#>Advertising may be applied to billboards, Parade of Homes, Realtor magazines, or other long-life publications approved by FPC.¶
- <#>FPC must approve the advertising prior to placing the ad. .
- ¶
- <#>FPC reserves the right to withhold payment for advertising which is untruthful or offensive; FPC shall be the final judge.¶
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C.4. INCENTIVES

The incentive payment structure builds on thermal and mechanical efficiencies as follows:

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Level	Incentive	Requirements	Minimum Cooling Efficiency	Minimum Heating Efficiency
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			BEE	SEER	HSPF	COP
Level One	One Free Educational Duct Test and promotional literature					
		\$100		13	7.5	
Level Two	Incentive from Level One Plus	\$100				
		\$300				
		\$300	11.7			4.10
		\$100				
		\$200				
		\$350				
			U-Factor	Solar Heat Gain Coefficient		
			<.75	<.50		
Level Three	Incentive from Levels One & Two, Plus PEF will match on a 50/50 basis up to \$50 in co-op advertising per unit					

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C.5. INCENTIVE PROCESSING

1. The PEF employee, builder or HVAC contractor will complete an Multi-Family New Construction Program form which will record as a minimum the following information: builder's name, name of complex, address(s) or apartment numbers of certified residency/unit. Level Number (i.e.: 1, 2, 3), equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP), and high performance windows information (U-Factor and SHGC).
2. The Residential New Construction Program form must be accompanied by documentation that supports the claimed efficiency ratings. For heat pumps refer to the Air Conditioning and Refrigeration Institute and Department of Energy test standards 210/240 (ARI Guide). For high performance windows refer to the National Fenestration Rating Council (NFRC label).
3. If payment is to be made to someone other than the builder, then the following information is required: Payee's name, address, Relationship to complex (Owner, Manager), name of complex, address(s) or apartment numbers of certified residency/unit. Level Number (i.e.: 1, 2, 3), equipment information (manufacturer, model numbers, EER or SEER, HSPF or COP).
4. The builder/owner or HVAC contractor will sign and date the form, and retain a copy.
5. When the complex is assigned for inspection, the original Multi-Family New Construction Program form is given to the inspector. After the inspection has been successfully completed, the inspector returns the original form to PEF for payment processing.
6. PEF will then input "work completed" and "amount paid" to the customer database and file copies of the program form by builder.

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C.6. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021(5), Florida Administrative Code.

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PROGRESS ENERGY FLORIDA, INC.

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**PROGRAM PARTICIPATION STANDARDS
RESIDENTIAL ENERGY MANAGEMENT
(RATE SCHEDULES RSL-1 AND RSL-2)**

1. PROGRAM OVERVIEW

The Residential Energy Management Program is a direct load control program that reduces Progress Energy Florida, Inc. (PEF)'s demand during peak or emergency conditions by temporarily interrupting customer equipment (electric central heating and water heater) for specified periods of time. Customers currently on Rate Schedule RSL-1 or RSL-2 may remain on RSL-1 or RSL-2 unless they choose to exit the program or make any equipment schedule changes. Any RSL-1 or RSL-2 customers who elect to exit the program will only be eligible for the RSL-2 rate schedule. New program participants (i.e., customers not currently on RSL-1 or RSL-2) will only be eligible for the RSL-2 rate schedule with heat pump option.

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Service under the RSL-1 and RSL-2 rate schedules is subject to PEF's currently effective and filed "General Rules and Regulations for Electrical Service." Standby or resale is not permitted under either of these rate schedules.

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2. ELIGIBILITY REQUIREMENTS

1. The residence must be in PEF's service area and be within the range of the Company's Energy Management system.
2. The customer must be eligible for residential service under Rate Schedule RSL-1 or RSL-2 (see the RSL-1 and RSL-2 tariffs).

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2.1 PARTICIPATION REQUIREMENTS

1. Must utilize both electric water heating and centrally ducted electric heating system(s).
2. Participants on the RSL-2 rate schedule shall have a minimum average monthly usage of 600 kWh for the months of November through March (based on the most recent billing history or, where not available, a projection for those months).
3. All installations must be accessible for inspection by a PEF employee or representative.
4. A PEF-approved, licensed contractor must complete all work.

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5. Any customer requesting removal from this program will be ineligible to participate for a period of twelve months.

2.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All installations must comply with all provisions of the National Electric Code (NEC) and any code or requirement of other authorities having jurisdiction.
2. The contractor shall comply with all Residential Energy Management Program Standards as specified by PEF and stated in the most current copy of the Energy Management Operations Manual.

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2.3 CONTRACTOR REQUIREMENTS

1. Contractors participating in the installation of Energy Management equipment must meet the financial criteria set forth in the PEF Purchasing Standards for contractors doing business with PEF.
2. PEF reserves the right to request background checks of contractors participating in the Residential Energy Management Program.
3. All contractors installing Energy Management devices within the confines of Pinellas County must hold an electrical contractor's license and be approved by the Pinellas County Construction Licensing Board to practice in Pinellas County. All contractor employees who are certified to install Energy Management must hold an electrical journeyman's card or greater. Those contractors outside of Pinellas County must comply with the licensing requirements of the area in which they are contracted to do installations.
4. The contractor must comply with all Federal, State and local licensing, codes and regulations.
5. Contractors are responsible for the work to be performed, the necessary tools and equipment, and the supervision of employees in order to meet the work specifications and the required completion date.
6. Contractors shall indemnify and hold PEF harmless against any and all injuries, damages; claims or cost, whatsoever caused by items furnished or services performed.
7. Contractors must be insured as per specifications in the bid agreement (Services and General Terms & Conditions form).

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3. INCENTIVES

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The various options and associated credits are shown in the RSL-1 and RSL-2 tariffs.

4. INCENTIVE PROCESSING

Customers on the RSL-2_ rate schedule will be eligible to receive a monthly credit on their electric bill for the billing months of November through March only. Customers on the RSL-1 rate schedule will be eligible to receive a monthly credit during every month of the year.

5. REPORTING REQUIREMENTS

The reporting requirements for this program will follow Rule 25-17.0021 (5) of the Florida Administrative Code.

**RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT – WINTER ONLY**

Availability:

Available only within the range of the Company's load management system.

Applicable:

To Customers eligible for residential service under Rate Schedule RS-1 or RSS-1 having a minimum average monthly usage of 600 kWh for the months of November through March (based on the most recent billings or, where not available, a projection for those months), and utilizing both an electric water heater and an electric central heating system:

Character of Service:

Continuous service, alternating current, 60 cycle, single-phase, at the Company's standard distribution secondary voltage available. Three-phase service, if available, will be supplied only under the conditions set forth in the Company's booklet "Requirements for Electric Service and Meter Installations."

Limitation of Service:

Service to the electrical equipment specified above may be interrupted at the option of the Company by means of load management devices installed on the Customer's premises.

Standby or resale service not permitted hereunder. Service under this rate schedule is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

Rate Per Month:

Customer Charge: \$ 8.03

Energy and Demand Charges:
Non-Fuel Energy Charges:

First 1,000 kWh 3.315¢ per kWh
 All additional kWh 4.315¢ per kWh

plus an Energy Conservation Cost Recovery Factor: See Sheet No. 6.105
 plus a Capacity Cost Recovery Factor: See Sheet No. 6.105
 plus an Environmental Cost Recovery Clause Factor: See Sheet No. 6.105

Additional Charges:

Fuel Cost Recovery Factor: See Sheet No. 6.105
 Gross Receipts Tax Factor: See Sheet No. 6.106
 Right-of-Way Utilization Fee: See Sheet No. 6.106
 Municipal Tax: See Sheet No. 6.106
 Sales Tax: See Sheet No. 6.106

* If applicable

Load Management Credit Amount:¹

<u>Interruptible Equipment</u>	<u>Monthly Credit²</u>
Water Heater and Central Heating System ³	\$11.50

Notes: (1) Load management credits shall not exceed 40% of the Non-Fuel Charge associated with kWh consumption in excess of 600 kWh/month.

(2) For billing months of November through March only.

(3) For heat pump systems the Company may, at its option, interrupt the secondary resistance heating elements for the entire designated Peak Period, in which case the primary heat pump system will not be subject to interruption.

Equipment Interruption Schedule:

Central Heating Equipment interruptions will not exceed an accumulated total of 16.5 minutes during any 30 minute interval within the Company's designated Peak Periods, except as provided in Note (3) above.

Water Heater Equipment may be interrupted continuously, not to exceed 300 minutes, during the Company's designated Peak Periods.

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ISSUED BY: Mark A. Myers, Vice President, Finance

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RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT – WINTER ONLY
(Continued from Page No. 1)

Peak Periods:

The designated Peak Periods, expressed in terms of prevailing clock time and subject to Special Provision 5 below, are as follows:
For the calendar months of November through March – All Days: 6:00 a.m. to 11:00 a.m., and
6:00 p.m. to 10:00 p.m.

Terms and Conditions:

All terms and conditions of Rate Schedule RS-1, Residential Service, including Fuel Charges and other Billing Adjustments, Minimum Monthly Bill, Terms of Payment, Term of Service, and Budget Billing Plan, shall apply to service under this rate schedule.

Special Provisions:

1. The Company shall be allowed reasonable access to the Customer's premises to install, maintain, inspect, test or remove the load management devices for the electrical equipment specified above.
2. Prior to the installation of load management devices, the Company may inspect the Customer's electrical equipment specified above to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of such equipment.
3. The Company shall not be required to install load management devices on electrical equipment which would not be economically justified for reasons, such as excessive installation costs, insufficient load, oversized heating equipment, or abnormal utilization of the electrical equipment, including but not limited to, seasonal or other limited occupancy residences or common use facilities.
4. Multiple units of any electrical equipment specified above must all be installed with load management devices to qualify for the load management credit under this rate schedule.
5. The limitations on equipment interruptions contained in this rate schedules shall not apply during critical capacity conditions on the Company's system; nor shall limitations apply at times the Company requires additional generating resources to maintain firm power sales commitments or supply emergency interchange service to another utility for its firm load obligations only. The Company may also exercise equipment interruptions at any time for the purpose of testing or evaluating the performance of its load management system.
6. If the Company determines that the load management devices installed on a Customer's premises have been tampered with, the Company may discontinue service under this rate schedule and bill for all prior load management credits received by the Customer, unless the tampering date can be established to the Company's satisfaction, plus applicable investigative charges.
7. Billing under this rate schedule will commence with the first complete billing period following installation of the load management devices. A Customer may transfer to another rate schedule by notifying the Company at least forty-five (45) days in advance, however the Customer will not be eligible service under this rate schedule for 12 months from the date of the transfer.
8. If the Company determines that the effect of equipment interruptions has been offset by the Customer's use of supplementary or alternative electrical equipment, or if access cannot be obtained by the Company to inspect, maintain, test or remove load management devices, service under this rate schedule may be discontinued and the Customer billed for all prior load management credits received over a period not in excess of six (6) months.

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EXHIBIT C

**RESIDENTIAL NEW CONSTRUCTION PROGRAM
COST-EFFECTIVENESS CALCULATIONS AND ASSUMPTIONS**

	Participant Costs \$/Participant	Admin Costs per New Participant \$/Participant	Incentives \$/Participant
Cost to	Participant	Utility	Utility
Single Family			
Seal Ducts	\$125	\$61.15	\$0
Heat Pump SEER 13	\$700	\$41	\$115
Heat Pump SEER 14	\$1,000	\$41	\$315
Water Heating HRU	\$700	\$30	\$100
Water Heating DHPWH	\$1,200	\$30	\$200
Insulation	\$220	\$30	\$0
Radiant Barrier	\$550	\$30	\$0
Windows	\$1,405	\$30	\$300
Multi Family			
Seal Ducts	\$100	\$61.15	\$0
Heat Pump SEER 13	\$500	\$41	\$115
Heat Pump SEER 14	\$700	\$41	\$315
Water Heating HRU	\$700	\$30	\$100
Water Heating DHPWH	\$1,200	\$30	\$200
Insulation	\$150	\$30	\$0
Radiant Barrier	\$400	\$30	\$0
Windows	\$800	\$30	\$300
Manufactured Home			
Seal Ducts	\$80	\$61.15	\$0
Heat Pump SEER 13	\$700	\$41	\$115
Heat Pump SEER 14	\$1,000	\$41	\$315
Water Heating HRU	\$700	\$30	\$100
Water Heating DHPWH	\$1,200	\$30	\$200
Insulation	\$100	\$30	\$0
Radiant Barrier	\$400	\$30	\$0
Windows	\$800	\$30	\$300

	Savings Per Participant			Cumulative Participation						
	Winter Peak KW	Summer Peak KW	Annual kWh Energy	2003	2004	2005	2006	2007	2008	2009
Single Family										
Seal Ducts	1.00	0.44	567	9400	20231	30846	41688	52453	62872	72726
Heat Pump SEER 13	0.79	1.03	2,085	177	357	538	720	902	1084	1268
Heat Pump SEER 14	1.24	1.27	2,670	175	352	531	711	891	1072	1253
Water Heating HRU	0.19	0.30	579	100	150	200	300	400	500	600
Water Heating DHPWH	0.27	0.22	1,009	5	10	15	20	25	30	35
Insulation	0.32	0.34	362	475	1092	1859	2772	3814	4964	6197
Radiant Barrier	0.28	0.40	422	50	80	110	140	170	200	230
Windows	1.09	0.57	1,319	300	600	900	1200	1500	1800	2100
Multi Family										
Seal Ducts	0.75	0.33	425	500	1000	1500	2000	2500	3000	3500
Heat Pump SEER 13	0.59	0.77	1,564	20	40	61	81	102	123	143
Heat Pump SEER 14	0.93	0.95	2,003	25	50	76	102	127	153	179
Water Heating HRU	0.14	0.23	435	100	200	300	400	500	600	700
Water Heating DHPWH	0.20	0.16	757	0	0	0	0	0	0	0
Insulation	0.24	0.25	271	20	46	78	117	161	209	261
Radiant Barrier	0.21	0.30	316	10	20	30	40	50	60	70
Windows	0.82	0.42	990	50	100	150	200	250	300	350
Manufactured Home										
Seal Ducts	1.00	0.44	567	200	400	600	800	1000	1200	1400
Heat Pump SEER 13	0.79	1.03	2085	10	20	31	41	51	62	72
Heat Pump SEER 14	1.24	1.27	2670	1	25	38	51	64	77	90
Water Heating HRU	0.19	0.30	579	25	52	80	110	139	169	199
Water Heating DHPWH	0.27	0.22	1009	0	0	0	0	0	0	0
Insulation	0.32	0.34	362	100	200	300	400	500	600	700
Radiant Barrier	0.28	0.40	422	20	40	60	80	100	120	140
Windows	1.09	0.57	1319	10	20	30	40	50	60	70

AVOIDABLE GENERATION COSTS

CTF G COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2005
(3) WINTER CAPACITY	182 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	394 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.88 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2010
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.52 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CTF G (2 UNITS) COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2007
(3) WINTER CAPACITY	364 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	338 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.44 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CTF G COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2011
(3) WINTER CAPACITY	182 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	338 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.86 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2008
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.38 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2012
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.68 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

AVOIDED TRANSMISSION AND DISTRIBUTION COSTS	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED T&D	2003
(3) AVOIDED TRANSMISSION AND DISTRIBUTION COST	44.37 \$/KW-YR
(4) T&D COST ESCALATION RATE	0 %

	ELECTRIC RATE INFORMATION BY CUSTOMER CLASS		
	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>
(1) FUEL & NON-FUEL COST IN CUSTOMER BILL	8.32 ¢/KWH	6.13 ¢/KWH	4.8 ¢/KWH
(2a) NON-FUEL ESCALATION RATE 2003-2012	-1.090 %	-1.420 %	-1.410 %
(2b) NON-FUEL ESCALATION RATE 2013+	2.500 %	2.500 %	2.500 %

Rate Impact Measure (RIM) Test

PROGRAM: Residential New Construction (ACT)

YEAR	BENEFITS					COSTS							NET BENEFITS \$(000)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)
	TOTAL FUEL & O&M SAVINGS \$(000)	AVOIDED T&D CAP. COSTS \$(000)	AVOIDED GEN. CAP. COSTS \$(000)	REVENUE GAINS \$(000)	TOTAL BENEFITS \$(000)	TOTAL FUEL & O&M INCREASE \$(000)	INCREASED T&D CAP. COSTS \$(000)	INCREASED GEN. CAP. COSTS \$(000)	UTILITY PROGRAM COSTS \$(000)	INCENTIVE PAYMENTS \$(000)	REVENUE LOSSES \$(000)	TOTAL COSTS \$(000)		
2003	430	403	0	0	833	0	0	0	672	219	613	1,504	-672	
2004	717	862	0	0	1,579	0	0	0	763	222	1,257	2,242	-663	
2005	1,647	1,315	538	0	3,499	0	0	0	755	220	1,919	2,894	605	
2006	2,148	1,777	754	0	4,680	0	0	0	775	225	2,564	3,564	1,116	
2007	2,979	2,239	892	0	6,110	0	0	0	774	225	3,187	4,186	1,923	
2008	3,146	2,689	1,705	0	7,541	0	0	0	756	226	3,759	4,741	2,800	
2009	3,133	3,119	1,404	0	7,656	0	0	0	724	226	4,325	5,275	2,381	
2010	3,779	3,119	1,903	0	8,801	0	0	0	0	0	4,320	4,320	4,481	
2011	4,263	3,119	1,180	0	8,563	0	0	0	0	0	4,324	4,324	4,239	
2012	3,987	3,119	1,996	0	9,102	0	0	0	0	0	4,318	4,318	4,784	
2013	3,946	3,119	1,999	0	9,064	0	0	0	0	0	4,434	4,434	4,629	
2014	4,093	3,119	2,038	0	9,250	0	0	0	0	0	4,547	4,547	4,703	
2015	4,206	3,119	2,135	0	9,460	0	0	0	0	0	4,661	4,661	4,799	
2016	4,318	3,119	2,121	0	9,558	0	0	0	0	0	4,777	4,777	4,781	
2017	4,356	3,119	2,113	0	9,588	0	0	0	0	0	4,892	4,892	4,696	
2018	4,466	3,119	2,106	0	9,691	0	0	0	0	0	5,012	5,012	4,678	
2019	4,577	3,119	2,191	0	9,887	0	0	0	0	0	5,136	5,136	4,751	
2020	4,775	3,119	2,278	0	10,172	0	0	0	0	0	5,264	5,264	4,908	
2021	4,768	3,119	2,213	0	10,100	0	0	0	0	0	5,397	5,397	4,703	
2022	4,823	3,119	2,118	0	10,059	0	0	0	0	0	5,536	5,536	4,524	
2023	4,912	3,119	2,171	0	10,202	0	0	0	0	0	5,674	5,674	4,528	
2024	5,062	3,119	2,219	0	10,399	0	0	0	0	0	5,816	5,816	4,583	
2025	5,132	3,119	2,246	0	10,497	0	0	0	0	0	5,961	5,961	4,536	
2026	5,254	3,119	2,246	0	10,619	0	0	0	0	0	6,113	6,113	4,506	
2027	5,284	3,119	2,230	0	10,633	0	0	0	0	0	6,263	6,263	4,369	
2028	5,440	3,119	2,262	0	10,821	0	0	0	0	0	6,422	6,422	4,399	
2029	5,592	3,119	2,334	0	11,045	0	0	0	0	0	6,587	6,587	4,458	
2030	5,803	3,119	2,477	0	11,399	0	0	0	0	0	6,753	6,753	4,645	
2031	5,755	3,119	2,289	0	11,163	0	0	0	0	0	6,928	6,928	4,235	
2032	5,729	3,119	2,129	0	10,976	0	0	0	0	0	7,111	7,111	3,866	
NOMINAL	124,516	84,139	54,288	0	262,943	0	0	0	5,220	1,563	143,870	150,652	112,291	
NPV	40,348	29,814	17,287	0	87,450	0	0	0	4,190	1,256	46,676	52,122	35,328	

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 1.68

Total Resource Cost (TRC) Test

PROGRAM: Residential New Construction (ACT)

YEAR	BENEFITS					COSTS						NET BENEFITS \$(000)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	TOTAL FUEL & O&M SAVINGS \$(000)	AVOIDED T&D CAP. COSTS \$(000)	AVOIDED GEN. CAP. COSTS \$(000)	OTHER PARTICIPANT BENEFITS \$(000)	TOTAL BENEFITS \$(000)	PARTICIPANT'S COST \$(000)	TOTAL FUEL & O&M INCREASE \$(000)	INCREASED T&D CAP. COSTS \$(000)	INCREASED GEN. CAP. COSTS \$(000)	UTILITY PROGRAM COSTS \$(000)	TOTAL COSTS \$(000)	
2003	430	403	0	0	833	2,365	0	0	0	672	3,038	-2,205
2004	717	862	0	0	1,579	2,559	0	0	0	763	3,322	-1,743
2005	1,647	1,315	538	0	3,499	2,560	0	0	0	755	3,315	184
2006	2,148	1,777	754	0	4,680	2,659	0	0	0	775	3,433	1,246
2007	2,979	2,239	892	0	6,110	2,677	0	0	0	774	3,451	2,659
2008	3,146	2,689	1,705	0	7,541	2,661	0	0	0	756	3,418	4,123
2009	3,133	3,119	1,404	0	7,656	2,610	0	0	0	724	3,334	4,322
2010	3,779	3,119	1,903	0	8,801	0	0	0	0	0	0	8,801
2011	4,263	3,119	1,180	0	8,563	0	0	0	0	0	0	8,563
2012	3,987	3,119	1,996	0	9,102	0	0	0	0	0	0	9,102
2013	3,946	3,119	1,999	0	9,064	0	0	0	0	0	0	9,064
2014	4,093	3,119	2,038	0	9,250	0	0	0	0	0	0	9,250
2015	4,206	3,119	2,135	0	9,460	0	0	0	0	0	0	9,460
2016	4,318	3,119	2,121	0	9,558	0	0	0	0	0	0	9,558
2017	4,356	3,119	2,113	0	9,588	0	0	0	0	0	0	9,588
2018	4,466	3,119	2,106	0	9,691	0	0	0	0	0	0	9,691
2019	4,577	3,119	2,191	0	9,887	0	0	0	0	0	0	9,887
2020	4,775	3,119	2,278	0	10,172	0	0	0	0	0	0	10,172
2021	4,768	3,119	2,213	0	10,100	0	0	0	0	0	0	10,100
2022	4,823	3,119	2,118	0	10,059	0	0	0	0	0	0	10,059
2023	4,912	3,119	2,171	0	10,202	0	0	0	0	0	0	10,202
2024	5,062	3,119	2,219	0	10,399	0	0	0	0	0	0	10,399
2025	5,132	3,119	2,246	0	10,497	0	0	0	0	0	0	10,497
2026	5,254	3,119	2,246	0	10,619	0	0	0	0	0	0	10,619
2027	5,284	3,119	2,230	0	10,633	0	0	0	0	0	0	10,633
2028	5,440	3,119	2,262	0	10,821	0	0	0	0	0	0	10,821
2029	5,592	3,119	2,334	0	11,045	0	0	0	0	0	0	11,045
2030	5,803	3,119	2,477	0	11,399	0	0	0	0	0	0	11,399
2031	5,755	3,119	2,289	0	11,163	0	0	0	0	0	0	11,163
2032	5,729	3,119	2,129	0	10,976	0	0	0	0	0	0	10,976
NOMINAL	124,516	84,139	54,288	0	262,943	18,091	0	0	0	5,220	23,311	239,632
NPV	40,348	29,814	17,287	0	87,450	14,493	0	0	0	4,190	18,683	68,767

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 4.68

Participant Test

PROGRAM: Residential New Construction (ACT)

YEAR	BENEFITS				COSTS			NET BENEFITS TO PARTICIPANTS \$(000)
	(1) SAVINGS IN PARTICIPANT'S BILL \$(000)	(2) INCENTIVE PAYMENTS \$(000)	(3) OTHER PARTICIPANT'S BENEFITS \$(000)	(4) TOTAL BENEFITS \$(000)	(5) PARTICIPANT'S COST \$(000)	(6) PARTICIPANT'S BILL INCREASE \$(000)	(7) TOTAL COSTS \$(000)	
2003	613	219	0	832	2,365	0	2,365	-1,533
2004	1,257	222	0	1,479	2,559	0	2,559	-1,080
2005	1,919	220	0	2,139	2,560	0	2,560	-421
2006	2,564	225	0	2,789	2,659	0	2,659	131
2007	3,187	225	0	3,412	2,677	0	2,677	735
2008	3,759	226	0	3,985	2,661	0	2,661	1,324
2009	4,325	226	0	4,551	2,610	0	2,610	1,941
2010	4,320	0	0	4,320	0	0	0	4,320
2011	4,324	0	0	4,324	0	0	0	4,324
2012	4,318	0	0	4,318	0	0	0	4,318
2013	4,434	0	0	4,434	0	0	0	4,434
2014	4,547	0	0	4,547	0	0	0	4,547
2015	4,661	0	0	4,661	0	0	0	4,661
2016	4,777	0	0	4,777	0	0	0	4,777
2017	4,892	0	0	4,892	0	0	0	4,892
2018	5,012	0	0	5,012	0	0	0	5,012
2019	5,136	0	0	5,136	0	0	0	5,136
2020	5,264	0	0	5,264	0	0	0	5,264
2021	5,397	0	0	5,397	0	0	0	5,397
2022	5,536	0	0	5,536	0	0	0	5,536
2023	5,674	0	0	5,674	0	0	0	5,674
2024	5,816	0	0	5,816	0	0	0	5,816
2025	5,961	0	0	5,961	0	0	0	5,961
2026	6,113	0	0	6,113	0	0	0	6,113
2027	6,263	0	0	6,263	0	0	0	6,263
2028	6,422	0	0	6,422	0	0	0	6,422
2029	6,587	0	0	6,587	0	0	0	6,587
2030	6,753	0	0	6,753	0	0	0	6,753
2031	6,928	0	0	6,928	0	0	0	6,928
2032	7,111	0	0	7,111	0	0	0	7,111
NOMINAL	143,870	1,563	0	145,433	18,091	0	18,091	127,341
NPV	46,676	1,256	0	47,932	14,493	0	14,493	33,439

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 3.31

EXHIBIT D

**RESIDENTIAL ENERGY MANAGEMENT PROGRAM
COST-EFFECTIVENESS CALCULATIONS AND ASSUMPTIONS**

LM Winter-Only Program

	Participant Costs	Utility Admin Costs	Utility Admin Costs	Incentives
Type of Cost	\$/Participant	\$/Participant (One Time)	\$/Participant/yr	\$/Participant/yr
Cost to	Participant	Utility	Utility	Utility
Schedule W New				
33 % HVAC		\$182.00	\$8.73	\$20.00
40 % HVAC				
50 % HVAC				
55 % HVAC				
Schedule S New				
33 % HVAC		\$182.00	\$8.73	\$20.00
40 % HVAC				
50 % HVAC				
55 % HVAC				
Water Heater				\$8.75

LM Winter-Only Program

LM Control Option	Savings Per Participant			Cumulative Participation									
	kW Peak Demand		Annual kWh	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Winter	Summer											
Schedule W New													
33 % HVAC	0.263	0.000	22.2	0	757	3,784	6,811	9,838	12,866	15,893	18,920	21,947	24,974
40 % HVAC	0.228	0.000	23.6	0	757	3,784	6,811	9,838	12,866	15,893	18,920	21,947	24,974
50 % HVAC	0.325	0.000	35.9	0	757	3,784	6,811	9,838	12,866	15,893	18,920	21,947	24,974
55 % HVAC	0.345	0.000	58.5	0	757	3,784	6,811	9,838	12,866	15,893	18,920	21,947	24,974
Schedule S New													
33 % HVAC	0.363	0.000	22.9	0	618	3,091	5,564	8,037	10,509	12,982	15,455	17,928	20,401
40 % HVAC	0.315	0.000	24.4	0	618	3,091	5,564	8,037	10,509	12,982	15,455	17,928	20,401
50 % HVAC	0.449	0.000	37.1	0	618	3,091	5,564	8,037	10,509	12,982	15,455	17,928	20,401
55 % HVAC	0.477	0.000	60.1	0	618	3,091	5,564	8,037	10,509	12,982	15,455	17,928	20,401
Water Heater	1.020	0.000	1759.0	0	1,375	6,875	12,375	17,875	23,375	28,875	34,375	39,875	45,375

AVOIDABLE GENERATION COSTS

CTF G (2 UNITS) COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2005
(3) WINTER CAPACITY	364 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	366 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.88 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2010
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.52 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CTF G COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2007
(3) WINTER CAPACITY	182 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	338 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.44 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2012
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.68 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CCM F COMBINED CYCLE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2008
(3) WINTER CAPACITY	540 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	451 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	45.77 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	0.234 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	50 %
(11) AVOIDED GENERATING UNIT FUEL COST	2.38 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CTF G COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2013
(3) WINTER CAPACITY	182 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	394 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	4.10 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

CTF G COMBUSTION TURBINE	
(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2009
(3) WINTER CAPACITY	182 MW
(4) BASE YEAR AVOIDED GENERATING UNIT COST	338 \$/KW
(5) GENERATOR COST ESCALATION RATE	2.50 %
(6) GENERATOR FIXED O&M COST	39.35 \$/KW-YR
(7) GENERATOR FIXED O&M ESCALATION RATE	2.50 %
(8) AVOIDED GEN UNIT VARIABLE O&M COSTS	1.110 ¢/KWH
(9) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.50 %
(10) GENERATOR CAPACITY FACTOR	15 %
(11) AVOIDED GENERATING UNIT FUEL COST	3.64 ¢/KWH
(12) AVOIDED GEN UNIT FUEL ESCALATION RATE	2.50 %

AVOIDED TRANSMISSION AND DISTRIBUTION

(1) BASE YEAR	2003
(2) IN-SERVICE YEAR FOR AVOIDED T&D	2003
(3) AVOIDED TRANSMISSION AND DISTRIBUTION COST	8.12 \$/KW-YR
(4) T&D COST ESCALATION RATE	0 %

ELECTRIC RATE INFORMATION BY CUSTOMER CLASS

	<u>RESIDENTIAL</u>	<u>COMMERCIAL</u>	<u>INDUSTRIAL</u>
(1) FUEL & NON-FUEL COST IN CUSTOMER BILL	8.32 ¢/KWH	6.13 ¢/KWH	4.8 ¢/KWH
(2a) NON-FUEL ESCALATION RATE 2003-2012	-1.090 %	-1.420 %	-1.410 %
(2b) NON-FUEL ESCALATION RATE 2013+	2.500 %	2.500 %	2.500 %

Rate Impact Measure (RIM) Test

PROGRAM: Winter Only Load Management (Schedule-W with Schedule-S)

YEAR	BENEFITS					COSTS						NET BENEFITS TO ALL CUSTOMERS \$(000)	
	(1) TOTAL FUEL & O&M SAVINGS \$(000)	(2) AVOIDED T&D CAP. COSTS \$(000)	(3) AVOIDED GEN. CAP. COSTS \$(000)	(4) REVENUE GAINS \$(000)	(5) TOTAL BENEFITS \$(000)	(6) TOTAL FUEL & O&M INCREASE \$(000)	(7) INCREASED T&D CAP. COSTS \$(000)	(8) INCREASED GEN. CAP. COSTS \$(000)	(9) UTILITY PROGRAM COSTS \$(000)	(10) INCENTIVE PAYMENTS \$(000)	(11) REVENUE LOSSES \$(000)		(12) TOTAL COSTS \$(000)
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	2	26	0	0	28	0	0	0	262	40	0	302	-274
2005	141	131	172	0	444	0	0	0	1,061	198	3	1,262	-818
2006	273	236	325	0	834	0	0	0	1,109	356	3	1,468	-633
2007	411	341	463	0	1,215	0	0	0	1,157	514	14	1,685	-470
2008	35	446	875	0	1,357	0	0	0	1,205	672	14	1,891	-534
2009	738	551	794	0	2,082	0	0	0	1,253	830	27	2,110	-28
2010	116	656	1,357	0	2,129	0	0	0	1,301	988	13	2,302	-173
2011	0	761	1,575	0	2,336	64	0	0	1,349	1,146	40	2,600	-264
2012	191	866	1,862	0	2,919	0	0	0	1,397	1,305	23	2,725	195
2013	1,235	866	1,601	0	3,702	0	0	0	396	1,305	33	1,733	1,968
2014	1,268	866	1,641	0	3,775	0	0	0	396	1,305	29	1,729	2,046
2015	1,294	866	1,682	0	3,843	0	0	0	396	1,305	27	1,728	2,114
2016	1,337	866	1,725	0	3,928	0	0	0	396	1,305	30	1,731	2,197
2017	1,379	866	1,768	0	4,013	0	0	0	396	1,305	35	1,736	2,277
2018	1,426	866	1,812	0	4,103	0	0	0	396	1,305	38	1,739	2,365
2019	1,473	866	1,857	0	4,196	0	0	0	396	1,305	41	1,742	2,454
2020	1,513	866	1,904	0	4,282	0	0	0	396	1,305	43	1,743	2,539
2021	1,544	866	1,951	0	4,361	0	0	0	396	1,305	44	1,745	2,617
2022	1,599	866	2,000	0	4,465	0	0	0	396	1,305	50	1,750	2,715
2023	1,631	866	2,050	0	4,547	0	0	0	396	1,305	49	1,750	2,797
2024	1,677	866	2,101	0	4,644	0	0	0	396	1,305	50	1,751	2,893
2025	1,736	866	2,154	0	4,755	0	0	0	396	1,305	52	1,753	3,002
2026	1,763	866	2,208	0	4,836	0	0	0	396	1,305	48	1,749	3,087
2027	1,810	866	2,263	0	4,939	0	0	0	396	1,305	48	1,748	3,191
2028	1,888	866	2,319	0	5,073	0	0	0	396	1,305	48	1,749	3,324
2029	1,922	866	2,377	0	5,165	0	0	0	396	1,305	51	1,751	3,414
2030	1,964	866	2,437	0	5,267	0	0	0	396	1,305	53	1,754	3,513
2031	2,021	866	2,498	0	5,385	0	0	0	396	1,305	67	1,768	3,617
2032	2,071	866	2,560	0	5,497	0	0	0	396	1,305	76	1,777	3,720
NOMINAL	34,458	21,333	48,330	0	104,121	64	0	0	18,017	32,139	1,050	51,270	52,850
NPV	8,860	6,771	14,008	0	29,639	35	0	0	8,676	10,201	288	19,200	10,439

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 1.54

Total Resource Cost (TRC) Test

PROGRAM: Winter Only Load Management (Schedule-W with Schedule-S)

YEAR	BENEFITS					COSTS						NET BENEFITS \$(000)
	(1) TOTAL FUEL & O&M SAVINGS \$(000)	(2) AVOIDED T&D CAP. COSTS \$(000)	(3) AVOIDED GEN. CAP. COSTS \$(000)	(4) OTHER PARTICIPANT BENEFITS \$(000)	(5) TOTAL BENEFITS \$(000)	(6) PARTICIPANT'S COST \$(000)	(7) TOTAL FUEL & O&M INCREASE \$(000)	(8) INCREASED T&D CAP. COSTS \$(000)	(9) INCREASED GEN. CAP. COSTS \$(000)	(10) UTILITY PROGRAM COSTS \$(000)	(11) TOTAL COSTS \$(000)	
2003	0	0	0	0	0	0	0	0	0	0	0	0
2004	2	26	0	0	28	0	0	0	0	262	262	-234
2005	141	131	172	0	444	0	0	0	0	1,061	1,061	-617
2006	273	236	325	0	834	0	0	0	0	1,109	1,109	-275
2007	411	341	463	0	1,215	0	0	0	0	1,157	1,157	58
2008	35	446	875	0	1,357	0	0	0	0	1,205	1,205	152
2009	738	551	794	0	2,082	0	0	0	0	1,253	1,253	829
2010	116	656	1,357	0	2,129	0	0	0	0	1,301	1,301	828
2011	0	761	1,575	0	2,336	0	64	0	0	1,349	1,413	923
2012	191	866	1,862	0	2,919	0	0	0	0	1,397	1,397	1,522
2013	1,235	866	1,601	0	3,702	0	0	0	0	396	396	3,306
2014	1,268	866	1,641	0	3,775	0	0	0	0	396	396	3,379
2015	1,294	866	1,682	0	3,843	0	0	0	0	396	396	3,446
2016	1,337	866	1,725	0	3,928	0	0	0	0	396	396	3,532
2017	1,379	866	1,768	0	4,013	0	0	0	0	396	396	3,616
2018	1,426	866	1,812	0	4,103	0	0	0	0	396	396	3,707
2019	1,473	866	1,857	0	4,196	0	0	0	0	396	396	3,800
2020	1,513	866	1,904	0	4,282	0	0	0	0	396	396	3,886
2021	1,544	866	1,951	0	4,361	0	0	0	0	396	396	3,965
2022	1,599	866	2,000	0	4,465	0	0	0	0	396	396	4,069
2023	1,631	866	2,050	0	4,547	0	0	0	0	396	396	4,151
2024	1,677	866	2,101	0	4,644	0	0	0	0	396	396	4,248
2025	1,736	866	2,154	0	4,755	0	0	0	0	396	396	4,359
2026	1,763	866	2,208	0	4,836	0	0	0	0	396	396	4,440
2027	1,810	866	2,263	0	4,939	0	0	0	0	396	396	4,543
2028	1,888	866	2,319	0	5,073	0	0	0	0	396	396	4,677
2029	1,922	866	2,377	0	5,165	0	0	0	0	396	396	4,769
2030	1,964	866	2,437	0	5,267	0	0	0	0	396	396	4,871
2031	2,021	866	2,498	0	5,385	0	0	0	0	396	396	4,988
2032	2,071	866	2,560	0	5,497	0	0	0	0	396	396	5,101
NOMINAL	34,458	21,333	48,330	0	104,121	0	64	0	0	18,017	18,081	86,039
NPV	8,860	6,771	14,008	0	29,639	0	35	0	0	8,676	8,711	20,928

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 3.40

Participant Test

PROGRAM: Winter Only Load Management (Schedule-W with Schedule-S)

YEAR	BENEFITS				COSTS			(8) NET BENEFITS TO PARTICIPANTS \$(000)
	(1) SAVINGS IN PARTICIPANT'S BILL \$(000)	(2) INCENTIVE PAYMENTS \$(000)	(3) OTHER PARTICIPANT'S BENEFITS \$(000)	(4) TOTAL BENEFITS \$(000)	(5) PARTICIPANT'S COST \$(000)	(6) PARTICIPANT'S BILL INCREASE \$(000)	(7) TOTAL COSTS \$(000)	
2003	0	0	0	0	0	0	0	0
2004	0	40	0	40	0	0	0	40
2005	3	198	0	201	0	0	0	201
2006	3	356	0	359	0	0	0	359
2007	14	514	0	528	0	0	0	528
2008	14	672	0	686	0	0	0	686
2009	27	830	0	857	0	0	0	857
2010	13	988	0	1,001	0	0	0	1,001
2011	40	1,146	0	1,187	0	0	0	1,187
2012	23	1,305	0	1,328	0	0	0	1,328
2013	33	1,305	0	1,337	0	0	0	1,337
2014	29	1,305	0	1,333	0	0	0	1,333
2015	27	1,305	0	1,332	0	0	0	1,332
2016	30	1,305	0	1,335	0	0	0	1,335
2017	35	1,305	0	1,340	0	0	0	1,340
2018	38	1,305	0	1,343	0	0	0	1,343
2019	41	1,305	0	1,346	0	0	0	1,346
2020	43	1,305	0	1,347	0	0	0	1,347
2021	44	1,305	0	1,348	0	0	0	1,348
2022	50	1,305	0	1,354	0	0	0	1,354
2023	49	1,305	0	1,354	0	0	0	1,354
2024	50	1,305	0	1,355	0	0	0	1,355
2025	52	1,305	0	1,357	0	0	0	1,357
2026	48	1,305	0	1,353	0	0	0	1,353
2027	48	1,305	0	1,352	0	0	0	1,352
2028	48	1,305	0	1,353	0	0	0	1,353
2029	51	1,305	0	1,355	0	0	0	1,355
2030	53	1,305	0	1,358	0	0	0	1,358
2031	67	1,305	0	1,371	0	0	0	1,371
2032	76	1,305	0	1,381	0	0	0	1,381
NOMINAL	1,050	32,139	0	33,189	0	0	0	33,189
NPV	288	10,201	0	10,489	0	0	0	10,489

UTILITY DISCOUNT RATE: 7.92%
BENEFIT/COST RATIO: 9999.00