

Hopping Green & Sams

Attorneys and Counselors

050512 -EI

Writer's Direct Dial Number
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July 28, 2005

BY HAND DELIVERY

Blanca Bayó
Director, Office of the Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

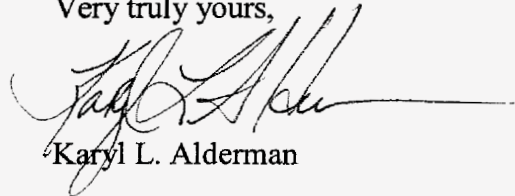
In re: Petition of Progress Energy Florida, Inc., for Approval of Modifications to its Low Income Weatherization Assistance Program, Docket No. 050512-EI

Dear Ms. Bayó:

Enclosed for filing on behalf of Progress Energy Florida, Inc. ("PEF") are the original and fifteen copies of PEF's Petition for Approval of Modifications to its Low Income Weatherization Assistance Program. I also have enclosed a diskette containing the Petition in Microsoft Word format.

Please stamp and return the enclosed extra copy of this filing. If you have any questions regarding this filing, please give me a call at 425-2359.

Very truly yours,



Karyl L. Alderman

KLA/dg

Enclosures

cc: R. Alexander Glenn
Paul Lewis, Jr.

DOCUMENT NUMBER - DATE

07232 JUL 28 '05

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Progress Energy Florida,
Inc. for approval of modifications to its Low
Income Weatherization Assistance Program.

Docket No. _____

Filed: July 28, 2005

**PETITION OF PROGRESS ENERGY FLORIDA INC. FOR
APPROVAL OF MODIFICATIONS TO ITS LOW INCOME
WEATHERIZATION ASSISTANCE PROGRAM**

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) program: Low Income Weatherization Assistance Program. In support, Progress Energy states:

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:

Gary V. Perko
Karyl L. Alderman
Hopping Green & Sams, P.A.
123 S. Calhoun Street (32301)
Post Office Box 6526
Tallahassee, FL 32314
850-225-7500

3. By Order No. PSC-04-0769-PAA-EG, issued August 9, 2004 in Docket No. 040031-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 Low Income Weatherization Assistance (LIWAP). 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 Low Income Weatherization Assistance Plan (LIWAP)

4. In 1996 Florida Power Corporation (now d/b/a Progress Energy Florida, Inc.) entered into an agreement with the Legal Environmental Assistance Foundation Inc. to create a Low Income Weatherization Assistance Program. The goal of this endeavor was to create and pilot a program that would specifically assist low income customers in Florida Power's service territory and to introduce them to DSM programs that they may not otherwise participate in. The delivery system for LIWAP would be Department of Community Affairs sponsored Weatherization agencies throughout Florida Power's service territory. A pilot program was implemented in 1996 -2000. The pilot proved very successful and resulted in the Commission's approval of LIWAP as a full time program.¹ See PSC-00-0750-PAA-EG (April 17, 2000). Since that time there have not been any additional measures implemented in the program.

5. Recently Progress Energy researched the feasibility of including additional measures that would further enhance LIWAP and provide WAP agencies with more measures and incentives to assist our customers. Based on that research, Progress Energy proposes to modify the LIWAP Program to add four new measures to enhance participation levels. The specific proposed measures to be added to LIWAP are noted below:

¹ LIWAP currently provides incentives for attic insulation upgrades, duct testing and repair, reduced air infiltration, water heater wrap, heating and air conditioning maintenance, high-efficiency heat pumps, heat recovery units, and dedicated heat pump water heaters.

Measure	Replacement
Compact florescent light bulb	15 or 18 watt compact fluorescent replacing incandescent lamp greater than or equal to 60 watts
Low flow shower head	2.5 g.p.m. – vs. - 3-5 g.p.m. for standard unit
Faucet aerators	No aerators currently installed
Refrigerator coil brush	

Composite Exhibit A to this Petition contains the revised Program Participation Standards in both standard and legislative format.

6. The modified LIWAP Program is cost-effective. Exhibit B contains cost-effectiveness calculations for the modified program under the Commission’s Rate Impact Measure (RIM) test, Total Resource Cost (TRC) test, and Participant test. As demonstrated by the cost-effectiveness analyses in Exhibit B, the modified Program’s benefit-to-cost ratios are: 1.0 for the Participant test, 1.061 for the RIM test, and 11.18 for the TRC test.

7. The proposed modifications of the LIWAP Program will help advance the policy objectives of Florida Energy Efficiency and Conservation Act (FEECA), Section 366.80-366.85, Florida Statutes, and Rule 25-17.001, Florida Administrative Code. The LIWAP Program, as modified, will improve energy efficiency for low-income customers in existing homes and thereby help Progress Energy achieve its approved conservation goals.

8. The LIWAP Program, as modified, is directly monitorable and will yield measurable results as the existing program has since its original approval. Progress Energy will continue to monitor the results of the LIWAP Program as it has in the past.

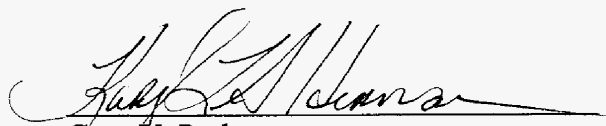
9. The Commission has previously approved recovery of reasonable and prudent expenditures associated with the LIWAP Program through the Energy Conservation Cost Recovery (ECCR) Clause. The ECCR Clause is the appropriate vehicle for recovery of the costs associated with the modified LIWAP Program.

Conclusion

10 Progress Energy is not aware of any dispute regarding any of the material facts contained in this petition. For the reasons discussed above, Progress Energy's requested modifications to its LIWAP Program should be approved and incorporated into the Company's DSM Plan. Progress Energy should be authorized to recover its reasonable and prudent expenditures for the modified LIWAP Program through the ECCR Clause.

WHEREFORE, Progress Energy respectfully requests that the Commission grant this petition and approve the modifications to its LIWAP Program as part of the Company's Demand Side Management Plan and to allow Progress Energy to recover reasonable and prudent expenditures for the modified LIWAP Program through its ECCR Clause.

Respectfully submitted, this 29th day of July, 2005.



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Attorneys for PROGRESS ENERGY FLORIDA, INC.

COMPOSITE EXHIBIT A

RESIDENTIAL LOW INCOME WEATHERIZATION ASSISTANCE PROGRAM

PROGRAM PARTICIPATION STANDARDS

PROGRESS ENERGY FLORIDA, INC.
PROGRAM PARTICIPATION STANDARDS
LOW-INCOME WEATHERIZATION ASSISTANCE PROGRAM

1. PROGRAM OVERVIEW

Progress Energy Florida, Inc.'s (PEF) Low-income Weatherization Assistance Program (LIWAP) is a custom energy conservation program. It is designed to develop a working relationship with weatherization providers. The LIWAP seeks to achieve the following goals:

1. Integrate PEF's LIWAP procedures with the Department of Community Affairs (DCA) and local weatherization providers to deliver energy efficiency measures to low-income families.
2. Identify and educate agencies and low income customers about energy saving opportunities to upgrade home energy efficiency.
3. Increase low-income families' participation in PEF's DSM programs.
4. Minimize "lost opportunities" in the existing marketplace.

2. ELIGIBILITY REQUIREMENTS

Low-income will be defined as 125 percent of the federal OMB poverty guidelines published annually in the Federal Register. The DCA is responsible for providing annual updates to participating providers. Additional requirements are as follows:

- The residence must be in PEF's service area and a residential metered customer.
- Must meet Florida's weatherization low-income criteria in addition to income requirements stated above.
- All installations must be accessible for verification by a PEF representative.
- Homes must be greater than two years old.
- Homes having previously received PEF incentives for listed measures are not eligible for the same measure.
- A Florida approved provider or their approved contractors must perform all work. Participating PEF contractors may be used.

2.1 CONTRACTOR REQUIREMENTS

The Department of Community Affairs and local weatherization providers are responsible for all work performed. Local providers may also use PEF participating contractors for attic insulation and duct testing/repair.

1. Local providers must have appropriate license(s) and comply with all appropriate federal, state, and local building and safety codes for all work performed.
2. All work performed must follow manufacturers' and PEF's specifications where applicable.
3. Local providers and their agents must correct any deficiencies found in the installation or materials identified by PEF.
4. DCA/Providers shall indemnify and hold harmless PEF from any and all losses, liabilities, injuries, damages claims or costs whatsoever caused by items furnished or services rendered.
5. All PEF contractors shall indemnify and hold harmless PEF from any and all losses, liabilities, injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.
6. PEF requires a minimum of the following insurance policies be in force by all participating contractors:
 - Workman's Compensation as required by law.
 - General Contractual and Automobile Bodily Injury Liability: \$100,000 per person and \$300,000 per occurrence.
 - General and Automobile Property Damage Liability: \$100,000 per occurrence.
 - General and Vehicle Liability policies endorsed: \$100,000 per occurrence to provide blanket coverage.

2.2 EQUIPMENT/MATERIALS AND INSTALLATION SPECIFICATIONS

All materials and installation specifications shall meet or exceed the following guidelines:

- Weatherization Installation Standards of the U.S. Department of Energy.
- Equipment must meet manufacturers' specification and installation procedures.
- All work shall be performed to constitute a finished product.
- Materials shall be free of defects and covered under warranty for at least one year.
- Installation procedures must comply with all federal, state and local codes.

- 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.

2.3 LOCAL PROVIDERS RESPONSIBILITY

The Department of Community Affairs, through their local weatherization providers, will be responsible for the following:

1. Qualify all participants using federal and state guidelines outlined in Section 2.
2. Conduct the National Energy Audit (NEAT) or any PEF approved energy audit on all eligible low-income weatherization installations.
3. Provide PEF with the following customer information at the time of application:
 - Client information
 - A list of installed measures and, where appropriate, pre-existing conditions
 - Pre and post CFM 50 readings
 - Itemized invoice with a brief description of installed measures (incentive measures only) and program incentive for each weatherized home, or the PEF/LIWAP data information form.
4. Qualify and install measures by PEF's standards and procedures. All installations shall comply with PEF specifications (see Sections 4.2 through 10.2).
5. Provide PEF random access to the weatherized homes for program evaluation and inspection.
6. Deliver energy education to weatherization clients.
7. Invoice PEF for program approved installed measures on monthly basis.

3. INCENTIVES AND ELIGIBLE MEASURES

Progress Energy will provide incentives for the following measures with the stipulation that all requirements and minimum levels are achieved where applicable:

Weatherization Measure	Minimum Measure Requirement	Incentive Amount	Additional Requirements	
Attic Insulation	Insulate to at least R-19	\$15 per 100 sq ft. up to a max of \$75	Must be a NEAT recommendation	
	Insulate to at least R-30	\$20 per 100 sq ft. up to a max of \$100		
Duct Leakage Test	Centrally ducted cooling system with electric heat	\$30 for the first unit tested \$20 for each additional unit at the same residence	1. LIWAP inspection 2. Must have electric heat (ducted or non-ducted)	
Duct Leakage Repair	Non-Ducted Electric Heat	25% up to \$50	1. LIWAP Inspection 2. Completed Duct Test	
	Electric Ducted Heat	50% up to \$100		
Reduce Air Infiltration	Must demonstrate a minimum reduction of 1500 cfm at 50 pascals in electrically heated homes Not to exceed a minimum of 0.35 ACH	\$75	Must be a NEAT recommendation	
Electric Hot Water Reduction	Wrap electric water heater and, if needed, lower temperature setting / repair hot water leaks, and replace water heater	\$25	LIWAP Inspection	
HVAC Maintenance	Centrally ducted Electric Heat and Cooling Systems	\$40	LIWAP Inspection	
High Efficiency Heat Pump Replacing a Heat Pump	10.2 EER or 12.0 SEER and 2.9 COP or 7.0 HSPF	\$100		
	11.0 EER or 13.0 SEER and 3.0 COP or 7.5 HSPF	\$150		
High Efficiency Heat Pump Replacing Electric Resistance Heat	10.2 EER or 12.0 SEER and 2.9 COP or 7.0 HSPF	\$250		
	11.0 EER or 13.0 SEER and 3.0 COP or 7.5 HSPF	\$350		
Heat Recovery Unit	Connected to an Electric Water Heater	\$100		LIWAP Inspection
Low Flow Showerheads	Maximum of 2.5 gallon per minute flow	\$18 per showerhead		Maximum of 2 per home and 1 per shower
Compact Fluorescent Light Bulbs	15 or 18 watt Compact Fluorescent replacing incandescent lamp greater than or equal to 60 watts	\$4 per lamp	Maximum of 3 per household	
Refrigerator Coil Brush	Clean Refrigerator or Freezer Coils	\$7 each	Maximum of 1 per household	
Faucet Aerators	Flow Reduction	\$2 per Aerator	Maximum of 3 per household	
Dedicated Heat Pump Water Heater		\$200	LIWAP Inspection	
Supplemental Incentive Bonus	High efficiency electric heat pump and either ceiling insulation or duct leakage repair	\$25		
	High efficiency electric heat pump and ceiling insulation and duct leakage repair	\$50		

Notes:

1. *All non-matching incentives cannot exceed the actual cost of the measure.*
2. *A home is eligible to receive an incentive for each heat pump installed based on the efficiency level.*
3. *To qualify for the supplemental bonus, additional measures must be implemented within 90 days of heat pump installation.*
4. *In multi-family structures, PEF reserves the right to request bids from contractors to hold customer costs to a minimum.*

4. CEILING INSULATION UPGRADE

4.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. The home must be at least two years old.
4. Eligible residences must have whole house electric air conditioning and/or whole house electric heating.
5. The weighted average R-value of the existing insulation over the total attic square footage (above conditioned space) must be less than R-12.
6. Any structure that has utilized any of PEF's ceiling insulation programs is not eligible to participate again. However, if the structure, through an act of God, loses the insulation **and** the loss is **not** covered by insurance, the structure is eligible to participate a second time. It is the customer's responsibility to provide PEF with a letter from his/her insurance company stating that the insulation was not covered.
7. The total ceiling area to be insulated must be greater than 100 square feet.
8. Mobile homes built after January 1, 1977 will be assumed to have an insulation value in excess of R-11 and will not be eligible to participate in this part of the LIWAP program unless documentation is provided to PEF stating that the actual existing insulation value is less than R-12.
9. Any home with "Knob and Tube Wiring" that is energized is not eligible.¹

4.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. The insulation must be installed in accordance with the manufacturer's recommendations and specifications.
2. All installations must result in an insulation value equal to or greater than R-19 or R-30. Insulation shall be added in increments of R-11, R-19, R-22, or R-30.
3. Flat roofs must have sufficient space to allow a minimum of 3 inches of air space above the insulation after insulation has been installed to the recommended R-value.

¹ National Electrical Code, Article 324, Section 324-4

4. The insulation must be installed in the unconditioned space as a direct application to the attic area over the conditioned space.
5. The insulation must have a minimum clearance around all recessed lighting and gas-fired appliances as required by State, County and local codes.
6. The insulation must be installed uniformly, resulting in a minimum R-19 value throughout the entire area including knee walls.²
7. All attic access panels that are located in conditioned space must be insulated with a minimum R-19 batt permanently attached.
8. Radiant barriers will not be allowed as a substitute in the LIWAP.
9. Ceilings with a rise greater than 5 and a run of 12 (5 over 12 pitch) shall not be insulated with blown-in (loose fill) insulation. Blown-in insulation shall not be used in attics where the distance from the top of the bottom chord of the truss or ceiling joist to the underside of the top chord of the trusses at the ridge is less than 30 inches and where obstructions to blown insulation exist (such as air conditioning ducts).³

4.3 CONTRACTOR REQUIREMENTS

1. Must meet the Contractor Requirements outlined in Section 2.1.
2. The contractor will supply to the customer, in writing the number of bags installed, and leave with the customer an empty bag or manufacturer's literature in order to determine the required density of the insulation.
3. The contractor will attach an R-value Certification Card signed by the insulation contractor or his representative to the attic joist visible from the attic access. The card shall contain, at a minimum, the following information:
 - Manufacturer's name
 - Insulation type
 - R-Value of insulation installed
 - Thickness of insulation installed
 - Location of insulation installed
 - Name and address of the contractor installing the insulation
 - Date of installation

² Florida Building Code Chapter 13, sub section 6 Section 604.1.A.1 Walls Considered Ceiling Area

³ Florida Building Code Chapter 13, sub section 6 Section 604.1ABC.1.1 Ceilings With Blown-In Insulation

5. DUCT LEAKAGE REPAIR

LIWAP duct repair is designed to train and encourage weatherization providers on the identification and repair procedures associated with duct leakage. Blower door or duct blaster equipment will be used as a diagnostic tool to locate duct leakage and provide quality control. This LIWAP component is available to all residential customers having a centrally ducted system with electric heating and cooling, provided the duct system is easily accessible.

5.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Repair recommendations must have been the result of a PEF-approved duct test.
4. The customer's duct system must be in adequate condition to accommodate the duct test, and not have been previously tested for the present occupant within a 5-year period.
5. The duct must be accessible for repair.
6. Homes must have centrally-ducted electric cooling and electric heat. If non-space heating combustion appliances exist (i.e., water heater, stove, etc.) then the house must pass a safety test prior to any duct sealing.
7. Duct and HVAC systems must be in adequate condition to accommodate duct leakage repair.

5.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturers' instructions and specifications.
2. Only mastic and fiber cloth or mastic with imbed 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.
3. Blower door or duct blaster procedures must be followed as specified in training or manufacturer's instructions, unless otherwise directed by PEF when performing the duct test.

5.3 CONTRACTOR REQUIREMENTS

1. Must meet the Contractor Requirements outlined in Section 2.1.
2. Must be a licensed Mechanical Contractor, Class A, B, or C Air Conditioning contractor.
3. All participating contractors must have attended and successfully completed a PEF-approved duct repair course. At a minimum, the training will consist of:
 - Training session on Building Science
 - Duct test applications (classroom and laboratory)
 - Duct test field applications
 - Codes and standards as they relate to duct sealing
4. Before any duct repairs can be made on homes with non-space heating combustion appliances the contractor shall follow the procedures as written in Chapter 4 of the “Duct Doctoring” instruction manual provided by the Florida Solar Energy Center Duct Diagnostics Training Course. The only exception is line 36, which deals with drilling a hole in the customer’s vent pipe. This is not required. Instead of this procedure, PEF has adopted the National Fuel Gas Code’s “Appendix H: Recommended Procedure for Safety Inspection of an Existing Appliance Installation.”
5. A list of PEF contractors will be furnished to local weatherization providers for duct testing and repair. Providers will contract directly with PEF duct repair contractors for all repair work.

5.4 INSPECTION REQUIREMENTS

All inspectors must be trained in the area for which they are inspecting. If inspecting for the Duct Test and Leakage portion of this program, all inspectors must have attended and successfully completed the training offered by the Florida Solar Energy Center or similar course. At a minimum, the training will consist of:

- Training session on Building Science
- Duct test applications (classroom and laboratory)
- Duct test field applications
- Codes and standards as they relate to duct sealing

6. HIGH EFFICIENCY ELECTRIC HEAT PUMPS

Promote the proper sizing and installation of high efficiency Heat Pump systems.

6.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.

6.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturers' instructions and specifications.
2. Installed equipment must be complete systems and shall be listed by Underwriters Laboratories or other nationally recognized testing laboratories in accordance with UL standards, as appropriate.
3. Both air handler and condensing units must be replaced.
4. The installed air handler/outdoor condensing unit combination must satisfy both the cooling and heating minimum efficiency requirements.
5. All equipment shall be new and not refurbished or have been previously installed or used.
6. Equipment efficiency ratings shall be obtained from a nationally recognized certification program directory or a manufacturer's rating certified to be in compliance with an approved Department of Energy (DOE) or Air Conditioning and Refrigeration Institute (ARI) rating procedure (standard 210/240-94). All cooling-mode efficiency ratings eligibility will be based on EER if available.⁴
7. If the unit is sized larger than one ton (12,000 BTU) per 500 square feet of conditioned space, a manual J or ASHRAE approved sizing calculation must be submitted. The contractor must certify that the unit was sized according to manufacturer specifications. Exception: Manufactured homes are exempted from this requirement.
8. The contractor will certify that the unit was sized according to manufacturer specifications.

⁴ If EER ratings are not available then SEER will be used to determine cooling-mode eligibility. All heating-mode efficiency ratings eligibility will be based on HSPF, except for water source units, which will use the COP value listed.

9. Refrigerant charge and type shall be according to manufacturer's specifications and recommendations for the unit installed. The contractor will certify that the proper charge is installed, that the unit is tested and is leak free.
10. Contractors shall certify that the airflow meets the manufacturer's recommendations and specifications for the system installed.
11. Contractors shall certify that if the equipment installed has a scroll compressor (36,001 Btu or larger), that a hard start kit was installed either by the contractor or at the factory.
12. Return air filters shall be installed to meet manufacturer's specifications with no obstructions. Filters must be easily accessible and the location shown to the customer.
13. The contractor shall check that the controlling thermostat is properly leveled, that the anticipator is properly set, and the thermometer is correct to within two degrees Fahrenheit.
14. The contractor will be encouraged to use mastic on all new connections.
15. Air handling units, mechanical closets and enclosed support platforms shall be sealed from unconditioned air.
16. Heat pump must be all electric.

6.3 CONTRACTOR REQUIREMENTS

1. Must meet Contractor Requirements in Section 2.1.
2. Must be a licensed Mechanical Contractor, Class A, B, or C Air Conditioning contractor in the jurisdiction having authority.
3. Contractors must demonstrate their capability to properly calculate heating and cooling loads by the Manual J method and to properly size and specify HVAC equipment.
4. The contractor must notify PEF within 30 days if there was an emergency replacement due to equipment failure.
5. The agency shall have 6 months from date of installation to submit all "High Efficiency Equipment Forms" after which they will become ineligible for incentive.

7. HIGH EFFICIENCY ALTERNATE ELECTRIC WATER HEATING

7.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have an electric water heater.

7.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All heat recovery units must be installed in accordance with manufacturer's specifications.
2. Installed equipment must be complete systems and shall be listed by Underwriters Laboratories or other nationally recognized testing laboratories in accordance with UL standards, as appropriate.
3. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified.
4. Heat recovery unit must be installed on an electric water heater.
5. All equipment shall be new and not refurbished, previously installed, or used.

7.3 CONTRACTOR REQUIREMENTS

Must meet the Contractor Requirements outlined in Section 2.1 and 6.3

8. HEATING AND AIR CONDITIONING MAINTENANCE (HAC)

Heating and air conditioning maintenance is designed to increase energy efficiency through proper operation of mechanical equipment. Local providers are encouraged to identify HAC systems that could benefit from service maintenance to avoid future breakdowns.

8.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have centrally ducted electric heating and cooling.

8.2 EQUIPMENT/SERVICE AND INSTALLATION SPECIFICATIONS

The following represents the minimum requirement that must be performed by an approved contractor:

Filter:

- Inspect and clean filters
- Replace up to one inch throw-away filter
- Replace specialty filters if provided by customer

System Controls and Operation:

- Check thermostatic operation
- Cycle all controls
- Inspect for dirt and loose connections; clean and tighten as necessary
- Visually check all connections for refrigerant leaks
- Check refrigerant pressure and add as needed
- Check and record supply and return temperature

Evaporator:

- Inspect coil assembly and drip pan
- Clean coil and pan and flush as necessary
- Check drain line and blow out if necessary

- Apply algae treatment as required

Blower and Blower Drive:

- Oil blower motor if applicable
- Check motor bearings
- Check belt condition and tension; replace if necessary
- Check blower cleanliness; clean if necessary
- Check and record amp draw
- Check drive and pulley alignment
- Check for vibrations

Condenser:

- Lubricate condenser fan motor, if applicable
- Check motor bearings
- Check coil condition for dirt build-up and clean as necessary
- Clean condenser as needed

Compressor:

- Check electrical wire connections; clean and tighten where possible
- Check operation and condition
- Check and record operating amperage

Heating System:

- Check electric heat strips

8.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Sections 2.1 and 6.3.

9. WATER HEATER

It is the intent of this portion of the program to save energy through adding additional insulation to the older water heaters, set back temperatures, insulate pipes and replace older less efficient water heaters, and help defray the cost of a new high efficient water heater.

9.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have an electric water heater.

9.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. Sides must be wrapped with a minimum Insulation level equal to R-6 or greater.
2. Top must be insulated to an R-8 or greater.
3. Pipes shall be insulated up to 3-foot minimum.
4. Replacement water heaters must have an EF = 0.88 or higher.

9.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Section 2.3.

10. AIR INFILTRATION REDUCTION

It is the intent of this portion of the program to save energy through reduction of unintended air infiltration in older homes.

10.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must be able to achieve an infiltration reduction of at least 1,500 cfm at 50 pascals.
4. Home must meet ASHRA Standard 90.2 as a minimum air infiltration level when infiltration sealing is completed.

10.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

Contractor must use a blower door and a manometer for precise pressure measurements.

10.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Section 2.3 and 6.3.

11. REFRIGERATOR BRUSH, COMPACT FLUORESCENT BULBS, LOW FLOW SHOWERHEADS, AND FAUCET AERATORS

11.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.

Measure	Participation Requirements	Equipment and Installation Specifications
Low Flow Showerhead	<ul style="list-style-type: none"> • Electric Water Heater • Current showerhead flow of 3.5 gallon per minute or greater 	Must meet manufacturer's specifications
Compact Fluorescent Light Bulb	<ul style="list-style-type: none"> • 15 or 18 watt compact fluorescent replacing incandescent lamp greater than or equal to 60 watts operating a minimum of 3 hours per day 	Must meet manufacturer's specifications <ul style="list-style-type: none"> • Must not be installed on a dimming circuit • Must not be installed in an enclosed fixture • Must be interior use only
Faucet aerators	<ul style="list-style-type: none"> • No aerators currently installed 	Must meet manufacturer's specifications <ul style="list-style-type: none"> • Threads must be compatible with existing faucet threads
Refrigerator coil brush	<ul style="list-style-type: none"> • Refrigerator or Freezer present 	Use per manufacturer's recommendation to clean condenser coils

11.2 CONTRACTOR REQUIREMENTS

Must meet the Contractor Requirements outlined in Section 2.1

12. INCENTIVE PROCESSING

Weatherization providers will submit the following information with all invoices by the tenth workday of each month (not to exceed 45 days from the date of installation):

- Client information
- A list of installed measures and, where appropriate, pre-existing conditions
- Pre and post CFM 50 readings
- Itemized invoice with a brief description of installed measures (incentive measures only) and program incentive for each weatherized home, or the PEF/LIWAP data information form.

If the home is not selected for inspection, or after it has passed inspection, invoices will be processed for payment. PEF will input installed measures and paid incentives to a data base system. Submitted reports and invoices will be maintained on file.

13. REPORTING REQUIREMENTS

PEF will follow the reporting requirements consistent with Rule 25-17.0021(5), Florida Administrative Code.

PROGRESS ENERGY FLORIDA, INC.
PROGRAM PARTICIPATION STANDARDS
LOW-INCOME WEATHERIZATION ASSISTANCE PROGRAM

1. PROGRAM OVERVIEW

Progress Energy Florida, Inc.'s (PEF) Low-income Weatherization Assistance Program (LIWAP) is a custom energy conservation program. It is designed to develop a working relationship with weatherization providers. The LIWAP seeks to achieve the following goals:

1. Integrate PEF's LIWAP procedures with the Department of Community Affairs (DCA) and local weatherization providers to deliver energy efficiency measures to low-income families.
2. Identify and educate agencies and low income customers about energy saving opportunities to upgrade home energy efficiency.
3. Increase low-income families' participation in PEF's DSM programs.
4. Minimize "lost opportunities" in the existing marketplace.

2. ELIGIBILITY REQUIREMENTS

Low-income will be defined as 125 percent of the federal OMB poverty guidelines published annually in the Federal Register. The DCA is responsible for providing annual updates to participating providers. Additional requirements are as follows:

- The residence must be in PEF's service area and a residential metered customer.
- Must meet Florida's weatherization low-income criteria in addition to income requirements stated above.
- All installations must be accessible for verification by a PEF representative.
- Homes must be greater than two years old.
- Homes having previously received PEF incentives for listed measures are not eligible for the same measure.
- A Florida approved provider or their approved contractors must perform all work. Participating PEF contractors may be used.

2.1 CONTRACTOR REQUIREMENTS

The Department of Community Affairs and local weatherization providers are responsible for all work performed. Local providers may also use PEF participating contractors for attic insulation and duct testing/repair.

1. Local providers must have appropriate license(s) and comply with all appropriate federal, state, and local building and safety codes for all work performed.
2. All work performed must follow manufacturers' and PEF's specifications where applicable.
3. Local providers and their agents must correct any deficiencies found in the installation or materials identified by PEF.
4. DCA/Providers shall indemnify and hold harmless PEF from any and all losses, liabilities, injuries, damages claims or costs whatsoever caused by items furnished or services rendered.
5. All PEF contractors shall indemnify and hold harmless PEF from any and all losses, liabilities, injuries, damages, claims or costs whatsoever caused by items furnished or services rendered.
6. PEF requires a minimum of the following insurance policies be in force by all participating contractors:
 - Workman's Compensation as required by law.
 - General Contractual and Automobile Bodily Injury Liability: \$100,000 per person and \$300,000 per occurrence.
 - General and Automobile Property Damage Liability: \$100,000 per occurrence.
 - General and Vehicle Liability policies endorsed: \$100,000 per occurrence to provide blanket coverage.

2.2 EQUIPMENT/MATERIALS AND INSTALLATION SPECIFICATIONS

All materials and installation specifications shall meet or exceed the following guidelines:

- Weatherization Installation Standards of the U.S. Department of Energy.
- Equipment must meet manufacturers' specification and installation procedures.
- All work shall be performed to constitute a finished product.
- Materials shall be free of defects and covered under warranty for at least one year.
- Installation procedures must comply with all federal, state and local codes.

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.

2.3 LOCAL PROVIDERS RESPONSIBILITY

The Department of Community Affairs, through their local weatherization providers, will be responsible for the following:

1. Qualify all participants using federal and state guidelines outlined in Section 2.
2. Conduct the National Energy Audit (NEAT) or any PEF approved energy audit on all eligible low-income weatherization installations.
3. Provide PEF with the following customer information at the time of application:
 1. Client information
 2. A list of installed measures and, where appropriate, pre-existing conditions
 3. Pre and post CFM 50 readings
 4. Itemized invoice with a brief description of installed measures (incentive measures only) and program incentive for each weatherized home, or the PEF/LIWAP data information form.
4. Qualify and install measures by PEF's standards and procedures. All installations shall comply with PEF specifications (see Sections 4.2 through 10.2).
5. Provide PEF random access to the weatherized homes for program evaluation and inspection.
6. Deliver energy education to weatherization clients.
7. Invoice PEF for program approved installed measures on monthly basis.

3. INCENTIVES AND ELIGIBLE MEASURES

Progress Energy will provide incentives for the following measures with the stipulation that all requirements and minimum levels are achieved where applicable:

Weatherization Measure	Minimum Measure Requirement	Incentive Amount	Additional Requirements
Attic Insulation	Insulate to at least R-19	\$15 per 100 sq ft. up to a max of \$75	Must be a NEAT recommendation
	Insulate to at least R-30	\$20 per 100 sq ft. up to a max of \$100	
Duct Leakage Test	Centrally ducted cooling system with electric heat	\$30 for the first unit tested \$20 for each additional unit at the same residence	1. LIWAP inspection 2. Must have electric heat (ducted or non-ducted)
Duct Leakage Repair	Non-Ducted Electric Heat	25% up to \$50	1. LIWAP Inspection 2. Completed Duct Test
	Electric Ducted Heat	50% up to \$100	
Reduce Air Infiltration	Must demonstrate a minimum reduction of 1500 cfm at 50 pascals in electrically heated homes Not to exceed a minimum of 0.35 ACH	\$75	Must be a NEAT recommendation
Electric Hot Water Reduction	Wrap electric water heater and, if needed, lower temperature setting / repair hot water leaks, and replace water heater	\$25	LIWAP Inspection
HVAC Maintenance	Centrally ducted Electric Heat and Cooling Systems	\$40	LIWAP Inspection
High Efficiency Heat Pump Replacing a Heat Pump	10.2 EER or 12.0 SEER and 2.9 COP or 7.0 HSPF	\$100	
	11.0 EER or 13.0 SEER and 3.0 COP or 7.5 HSPF	\$150	
High Efficiency Heat Pump Replacing Electric Resistance Heat	10.2 EER or 12.0 SEER and 2.9 COP or 7.0 HSPF	\$250	
	11.0 EER or 13.0 SEER and 3.0 COP or 7.5 HSPF	\$350	
Heat Recovery Unit	Connected to an Electric Water Heater	\$100	LIWAP Inspection
Low Flow Showerheads	Maximum of 2.5 gallon per minute flow	\$18 per showerhead	Maximum of 2 per home and 1 per shower
Compact Fluorescent Light Bulbs	15 or 18 watt Compact Fluorescent replacing incandescent lamp greater than or equal to 60 watts	\$4 per lamp	Maximum of 3 per household
Refrigerator Coil Brush	Clean Refrigerator or Freezer Coils	\$7 each	Maximum of 1 per household
Faucet Aerators	Flow Reduction	\$2 per Aerator	Maximum of 3 per household
Dedicated Heat Pump Water Heater		\$200	LIWAP Inspection
Supplemental Incentive Bonus	High efficiency electric heat pump and either ceiling insulation or duct leakage repair	\$25	
	High efficiency electric heat pump and ceiling insulation and duct leakage repair	\$50	

Notes:

1. *All non-matching incentives cannot exceed the actual cost of the measure.*
2. *A home is eligible to receive an incentive for each heat pump installed based on the efficiency level.*
3. *To qualify for the supplemental bonus, additional measures must be implemented within 90 days of heat pump installation.*
4. *In multi-family structures, PEF reserves the right to request bids from contractors to hold customer costs to a minimum.*

4. CEILING INSULATION UPGRADE

4.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. The home must be at least two years old.
4. Eligible residences must have whole house electric air conditioning and/or whole house electric heating.
5. The weighted average R-value of the existing insulation over the total attic square footage (above conditioned space) must be less than R-12.
6. Any structure that has utilized any of PEF's ceiling insulation programs is not eligible to participate again. However, if the structure, through an act of God, loses the insulation **and** the loss is **not** covered by insurance, the structure is eligible to participate a second time. It is the customer's responsibility to provide PEF with a letter from his/her insurance company stating that the insulation was not covered.
7. The total ceiling area to be insulated must be greater than 100 square feet.
8. Mobile homes built after January 1, 1977 will be assumed to have an insulation value in excess of R-11 and will not be eligible to participate in this part of the LIWAP program unless documentation is provided to PEF stating that the actual existing insulation value is less than R-12.
9. Any home with "Knob and Tube Wiring" that is energized is not eligible.¹

4.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. The insulation must be installed in accordance with the manufacturer's recommendations and specifications.
2. All installations must result in an insulation value equal to or greater than R-19 or R-30. Insulation shall be added in increments of R-11, R-19, R-22, or R-30.
3. Flat roofs must have sufficient space to allow a minimum of 3 inches of air space above the insulation after insulation has been installed to the recommended R-value.

¹ National Electrical Code, Article 324, Section 324-4

4. The insulation must be installed in the unconditioned space as a direct application to the attic area over the conditioned space.
5. The insulation must have a minimum clearance around all recessed lighting and gas-fired appliances as required by State, County and local codes.
6. The insulation must be installed uniformly, resulting in a minimum R-19 value throughout the entire area including knee walls.²
7. All attic access panels that are located in conditioned space must be insulated with a minimum R-19 batt permanently attached.
8. Radiant barriers will not be allowed as a substitute in the LIWAP.
9. Ceilings with a rise greater than 5 and a run of 12 (5 over 12 pitch) shall not be insulated with blown-in (loose fill) insulation. Blown-in insulation shall not be used in attics where the distance from the top of the bottom chord of the truss or ceiling joist to the underside of the top chord of the trusses at the ridge is less than 30 inches and where obstructions to blown insulation exist (such as air conditioning ducts).³

4.3 CONTRACTOR REQUIREMENTS

1. Must meet the Contractor Requirements outlined in Section 2.1.
2. The contractor will supply to the customer, in writing the number of bags installed, and leave with the customer an empty bag or manufacturer's literature in order to determine the required density of the insulation.
3. The contractor will attach an R-value Certification Card signed by the insulation contractor or his representative to the attic joist visible from the attic access. The card shall contain, at a minimum, the following information:

5.• Manufacturer's name

6.• Insulation type

7.• R-Value of insulation installed

8.• Thickness of insulation installed

9.• Location of insulation installed

10.• Name and address of the contractor installing the insulation

11.• Date of installation

² Florida Building Code Chapter 13, sub section 6 Section 604.1.A.1 Walls Considered Ceiling Area

³ Florida Building Code Chapter 13, sub section 6 Section 604.1ABC.1.1 Ceilings With Blown-In Insulation

5. DUCT LEAKAGE REPAIR

LIWAP duct repair is designed to train and encourage weatherization providers on the identification and repair procedures associated with duct leakage. Blower door or duct blaster equipment will be used as a diagnostic tool to locate duct leakage and provide quality control. This LIWAP component is available to all residential customers having a centrally ducted system with electric heating and cooling, provided the duct system is easily accessible.

5.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Repair recommendations must have been the result of a PEF-approved duct test.
4. The customer's duct system must be in adequate condition to accommodate the duct test, and not have been previously tested for the present occupant within a 5-year period.
5. The duct must be accessible for repair.
6. Homes must have centrally-ducted electric cooling and electric heat. If non-space heating combustion appliances exist (i.e., water heater, stove, etc.) then the house must pass a safety test prior to any duct sealing.
7. Duct and HVAC systems must be in adequate condition to accommodate duct leakage repair.

5.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturers' instructions and specifications.
2. Only mastic and fiber cloth or mastic with imbed 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.
3. Blower door or duct blaster procedures must be followed as specified in training or manufacturer's instructions, unless otherwise directed by PEF when performing the duct test.

5.3 CONTRACTOR REQUIREMENTS

1. Must meet the Contractor Requirements outlined in Section 2.1.
2. Must be a licensed Mechanical Contractor, Class A, B, or C Air Conditioning contractor.
3. All participating contractors must have attended and successfully completed a PEF-approved duct repair course. At a minimum, the training will consist of:
 - ~~12.~~• Training session on Building Science
 - ~~13.~~• Duct test applications (classroom and laboratory)
 - ~~14.~~• Duct test field applications
 - ~~15.~~• Codes and standards as they relate to duct sealing
4. Before any duct repairs can be made on homes with non-space heating combustion appliances the contractor shall follow the procedures as written in Chapter 4 of the "Duct Doctoring" instruction manual provided by the Florida Solar Energy Center Duct Diagnostics Training Course. The only exception is line 36, which deals with drilling a hole in the customer's vent pipe. This is not required. Instead of this procedure, PEF has adopted the National Fuel Gas Code's "Appendix H: Recommended Procedure for Safety Inspection of an Existing Appliance Installation."
- ~~15.~~ A list of PEF contractors will be furnished to local weatherization providers for duct testing and repair. Providers will contract directly with PEF duct repair contractors for all repair work.

5.4 INSPECTION REQUIREMENTS

All inspectors must be trained in the area for which they are inspecting. If inspecting for the Duct Test and Leakage portion of this program, all inspectors must have attended and successfully completed the training offered by the Florida Solar Energy Center or similar course. At a minimum, the training will consist of:

- Training session on Building Science
- Duct test applications (classroom and laboratory)
- Duct test field applications
- Codes and standards as they relate to duct sealing

6. HIGH EFFICIENCY ELECTRIC HEAT PUMPS

Promote the proper sizing and installation of high efficiency Heat Pump systems.

6.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.

6.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All equipment installations must meet manufacturers' instructions and specifications.
2. Installed equipment must be complete systems and shall be listed by Underwriters Laboratories or other nationally recognized testing laboratories in accordance with UL standards, as appropriate.
3. Both air handler and condensing units must be replaced.
4. The installed air handler/outdoor condensing unit combination must satisfy both the cooling and heating minimum efficiency requirements.
5. All equipment shall be new and not refurbished or have been previously installed or used.
6. Equipment efficiency ratings shall be obtained from a nationally recognized certification program directory or a manufacturer's rating certified to be in compliance with an approved Department of Energy (DOE) or Air Conditioning and Refrigeration Institute (ARI) rating procedure (standard 210/240-94). All cooling-mode efficiency ratings eligibility will be based on EER if available.⁴
7. If the unit is sized larger than one ton (12,000 BTU) per 500 square feet of conditioned space, a manual J or ASHRAE approved sizing calculation must be submitted. The contractor must certify that the unit was sized according to manufacturer specifications. Exception: Manufactured homes are exempted from this requirement.
8. The contractor will certify that the unit was sized according to manufacturer specifications.

⁴ If EER ratings are not available then SEER will be used to determine cooling-mode eligibility. All heating-mode efficiency ratings eligibility will be based on HSPF, except for water source units, which will use the COP value listed.

9. Refrigerant charge and type shall be according to manufacturer's specifications and recommendations for the unit installed. The contractor will certify that the proper charge is installed, that the unit is tested and is leak free.
10. Contractors shall certify that the airflow meets the manufacturer's recommendations and specifications for the system installed.
11. Contractors shall certify that if the equipment installed has a scroll compressor (36,001 Btu or larger), that a hard start kit was installed either by the contractor or at the factory.
12. Return air filters shall be installed to meet manufacturer's specifications with no obstructions. Filters must be easily accessible and the location shown to the customer.
13. The contractor shall check that the controlling thermostat is properly leveled, that the anticipator is properly set, and the thermometer is correct to within two degrees Fahrenheit.
14. The contractor will be encouraged to use mastic on all new connections.
15. Air handling units, mechanical closets and enclosed support platforms shall be sealed from unconditioned air.
16. Heat pump must be all electric.

6.3 CONTRACTOR REQUIREMENTS

1. Must meet Contractor Requirements in Section 2.1.
2. Must be a licensed Mechanical Contractor, Class A, B, or C Air Conditioning contractor in the jurisdiction having authority.
3. Contractors must demonstrate their capability to properly calculate heating and cooling loads by the Manual J method and to properly size and specify HVAC equipment.
4. The contractor must notify PEF within 30 days if there was an emergency replacement due to equipment failure.
5. The agency shall have 6 months from date of installation to submit all "High Efficiency Equipment Forms" after which they will become ineligible for incentive.

7. HIGH EFFICIENCY ALTERNATE ELECTRIC WATER HEATING

7.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have an electric water heater.

7.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. All heat recovery units must be installed in accordance with manufacturer's specifications.
2. Installed equipment must be complete systems and shall be listed by Underwriters Laboratories or other nationally recognized testing laboratories in accordance with UL standards, as appropriate.
3. Heat recovery water heaters must be equipped with a circulating pump and must be Association of Refrigerant Desuperheater Manufacturers (ARDM) certified.
4. Heat recovery unit must be installed on an electric water heater.
5. All equipment shall be new and not refurbished, previously installed, or used.

7.3 CONTRACTOR REQUIREMENTS

Must meet the Contractor Requirements outlined in Section 2.1 and 6.3

8. HEATING AND AIR CONDITIONING MAINTENANCE (HAC)

Heating and air conditioning maintenance is designed to increase energy efficiency through proper operation of mechanical equipment. Local providers are encouraged to identify HAC systems that could benefit from service maintenance to avoid future breakdowns.

8.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have centrally ducted electric heating and cooling.

8.2 EQUIPMENT/SERVICE AND INSTALLATION SPECIFICATIONS

The following represents the minimum requirement that must be performed by an approved contractor:

Filter:

- Inspect and clean filters
- Replace up to one inch throw-away filter
- Replace specialty filters if provided by customer

System Controls and Operation:

- Check thermostatic operation
- Cycle all controls
- Inspect for dirt and loose connections; clean and tighten as necessary
- Visually check all connections for refrigerant leaks
- Check refrigerant pressure and add as needed
- Check and record supply and return temperature

Evaporator:

- Inspect coil assembly and drip pan
- Clean coil and pan and flush as necessary
- Check drain line and blow out if necessary

- Apply algae treatment as required

Blower and Blower Drive:

- Oil blower motor if applicable
- Check motor bearings
- Check belt condition and tension; replace if necessary
- Check blower cleanliness; clean if necessary
- Check and record amp draw
- Check drive and pulley alignment
- Check for vibrations

Condenser:

- Lubricate condenser fan motor, if applicable
- Check motor bearings
- Check coil condition for dirt build-up and clean as necessary
- Clean condenser as needed

Compressor:

- Check electrical wire connections; clean and tighten where possible
- Check operation and condition
- Check and record operating amperage

Heating System:

- Check electric heat strips

8.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Sections 2.1 and 6.3.

9. WATER HEATER

It is the intent of this portion of the program to save energy through adding additional insulation to the older water heaters, set back temperatures, insulate pipes and replace older less efficient water heaters, and help defray the cost of a new high efficient water heater.

9.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must have an electric water heater.

9.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

1. Sides must be wrapped with a minimum Insulation level equal to R-6 or greater.
2. Top must be insulated to an R-8 or greater.
3. Pipes shall be insulated up to 3-foot minimum.
4. Replacement water heaters must have an EF = 0.88 or higher.

9.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Section 2.3.

10. AIR INFILTRATION REDUCTION

It is the intent of this portion of the program to save energy through reduction of unintended air infiltration in older homes.

10.1 PARTICIPATION REQUIREMENTS

1. Must meet Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.
3. Must be able to achieve an infiltration reduction of at least 1,500 cfm at 50 pascals.
4. Home must meet ASHRA Standard 90.2 as a minimum air infiltration level when infiltration sealing is completed.

10.2 EQUIPMENT AND INSTALLATION SPECIFICATIONS

Contractor must use a blower door and a manometer for precise pressure measurements.

10.3 CONTRACTOR REQUIREMENTS

Must meet Contractor Requirements in Section 2.3 and 6.3.

11. REFRIGERATOR BRUSH, COMPACT FLUORESCENT BULBS, LOW FLOW SHOWERHEADS, AND FAUCET AERATORS

11.1 PARTICIPATION REQUIREMENTS

1. Must meet the Eligibility Requirements outlined in Section 2.
2. Must be a recommendation from a LIWAP Audit.

<u>Measure</u>	<u>Participation Requirements</u>	<u>Equipment and Installation Specifications</u>
<u>Low Flow Showerhead</u>	<ul style="list-style-type: none"> • <u>Electric Water Heater</u> • <u>Current showerhead flow of 3.5 gallon per minute or greater</u> 	<u>Must meet manufacturer's specifications</u>
<u>Compact Fluorescent Light Bulb</u>	<ul style="list-style-type: none"> • <u>15 or 18 watt compact fluorescent replacing incandescent lamp greater than or equal to 60 watts operating a minimum of 3 hours per day</u> 	<u>Must meet manufacturer's specifications</u> <ul style="list-style-type: none"> • <u>Must not be installed on a dimming circuit</u> • <u>Must not be installed in an enclosed fixture</u> • <u>Must be interior use only</u>
<u>Faucet aerators</u>	<ul style="list-style-type: none"> • <u>No aerators currently installed</u> 	<u>Must meet manufacturer's specifications</u> <ul style="list-style-type: none"> • <u>Threads must be compatible with existing faucet threads</u>
<u>Refrigerator coil brush</u>	<ul style="list-style-type: none"> • <u>Refrigerator or Freezer present</u> 	<u>Use per manufacturer's recommendation to clean condenser coils</u>

11.2 CONTRACTOR REQUIREMENTS

Must meet the Contractor Requirements outlined in Section 2.1

12. INCENTIVE PROCESSING

Weatherization providers will submit the following information with all invoices by the tenth workday of each month (not to exceed 45 days from the date of installation):

- Client information
- A list of installed measures and, where appropriate, pre-existing conditions
- Pre and post CFM 50 readings
- Itemized invoice with a brief description of installed measures (incentive measures only) and program incentive for each weatherized home, or the PEF/LIWAP data information form.

If the home is not selected for inspection, or after it has passed inspection, invoices will be processed for payment. PEF will input installed measures and paid incentives to a data base system. Submitted reports and invoices will be maintained on file.

13. REPORTING REQUIREMENTS

PEF will follow the reporting requirements consistent with Rule 25-17.0021(5), Florida Administrative Code.

EXHIBIT B

**RESIDENTIAL LOW INCOME WEATHERIZATION ASSISTANCE PROGRAM
COST-EFFECTIVENESS CALCULATIONS**

Rate Impact Measure (RIM) Test

PROGRAM: Low Income Weatherization Assistance Program with Expanded Measures

YEAR	BENEFITS					COSTS							NET BENEFITS \$(000)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
	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)	
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	12	8	0	0	19	0	0	0	28	37	17	82	-63
2007	21	15	0	0	36	0	0	0	28	37	33	98	-62
2008	29	23	0	0	52	0	0	0	28	37	48	113	-61
2009	42	30	0	0	72	0	0	0	28	37	64	130	-57
2010	65	38	38	0	140	0	0	0	28	37	84	149	-8
2011	74	45	34	0	152	0	0	0	28	37	103	168	-16
2012	103	53	33	0	188	0	0	0	28	37	123	188	0
2013	127	60	38	0	226	0	0	0	28	37	154	219	6
2014	111	68	54	0	232	0	0	0	28	37	165	230	3
2015	125	75	71	0	271	0	0	0	28	37	187	252	19
2016	128	75	74	0	276	0	0	0	0	0	192	192	84
2017	133	75	82	0	290	0	0	0	0	0	200	200	90
2018	132	75	80	0	287	0	0	0	0	0	201	201	86
2019	132	75	75	0	282	0	0	0	0	0	206	206	76
2020	134	75	82	0	291	0	0	0	0	0	212	212	80
2021	134	75	79	0	288	0	0	0	0	0	215	215	73
2022	136	75	87	0	298	0	0	0	0	0	220	220	78
2023	142	75	101	0	318	0	0	0	0	0	228	228	90
2024	132	75	90	0	297	0	0	0	0	0	234	234	63
2025	140	75	91	0	306	0	0	0	0	0	239	239	67
2026	145	75	98	0	318	0	0	0	0	0	245	245	73
2027	147	75	99	0	321	0	0	0	0	0	251	251	70
2028	147	75	97	0	319	0	0	0	0	0	258	258	61
2029	151	75	102	0	327	0	0	0	0	0	264	264	63
2030	154	75	105	0	334	0	0	0	0	0	271	271	63
2031	156	75	105	0	336	0	0	0	0	0	276	276	60
2032	157	75	108	0	340	0	0	0	0	0	285	285	55
2033	151	75	110	0	336	0	0	0	0	0	276	276	60
2034	169	75	117	0	361	0	0	0	0	0	299	299	63
NOMINAL	3,425	1,841	2,049	0	7,315	0	0	0	284	368	5,550	6,201	1,113
NPV	1,013	569	530	0	2,112	0	0	0	189	245	1,557	1,991	122

Utility Discount Rate = 8.16
 Benefit Cost Ratio = 1.061

Total Resource Cost (TRC) Test

PROGRAM: Low Income Weatherization Assistance Program with Expanded Measures

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)	
2005	0	0	0	0	0	0	0	0	0	0	0	0
2006	12	8	0	0	19	0	0	0	0	28	28	-9
2007	21	15	0	0	36	0	0	0	0	28	28	8
2008	29	23	0	0	52	0	0	0	0	28	28	23
2009	42	30	0	0	72	0	0	0	0	28	28	44
2010	65	38	38	0	140	0	0	0	0	28	28	112
2011	74	45	34	0	152	0	0	0	0	28	28	124
2012	103	53	33	0	188	0	0	0	0	28	28	160
2013	127	60	38	0	226	0	0	0	0	28	28	197
2014	111	68	54	0	232	0	0	0	0	28	28	204
2015	125	75	71	0	271	0	0	0	0	28	28	243
2016	128	75	74	0	276	0	0	0	0	0	0	276
2017	133	75	82	0	290	0	0	0	0	0	0	290
2018	132	75	80	0	287	0	0	0	0	0	0	287
2019	132	75	75	0	282	0	0	0	0	0	0	282
2020	134	75	82	0	291	0	0	0	0	0	0	291
2021	134	75	79	0	288	0	0	0	0	0	0	288
2022	136	75	87	0	298	0	0	0	0	0	0	298
2023	142	75	101	0	318	0	0	0	0	0	0	318
2024	132	75	90	0	297	0	0	0	0	0	0	297
2025	140	75	91	0	306	0	0	0	0	0	0	306
2026	145	75	98	0	318	0	0	0	0	0	0	318
2027	147	75	99	0	321	0	0	0	0	0	0	321
2028	147	75	97	0	319	0	0	0	0	0	0	319
2029	151	75	102	0	327	0	0	0	0	0	0	327
2030	154	75	105	0	334	0	0	0	0	0	0	334
2031	156	75	105	0	336	0	0	0	0	0	0	336
2032	157	75	108	0	340	0	0	0	0	0	0	340
2033	151	75	110	0	336	0	0	0	0	0	0	336
2034	169	75	117	0	361	0	0	0	0	0	0	361
NOMINAL	3,425	1,841	2,049	0	7,315	0	0	0	0	284	284	7,031
NPV	1,013	569	530	0	2,112	0	0	0	0	189	189	1,923

Utility Discount Rate = 8.16
 Benefit Cost Ratio = 11.180

Participant Test

PROGRAM: Low Income Weatherization Assistance Program with Expanded Measures

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)	
2005	0	0	0	0	0	0	0	0
2006	17	37	0	54	0	0	0	54
2007	33	37	0	70	0	0	0	70
2008	48	37	0	85	0	0	0	85
2009	64	37	0	101	0	0	0	101
2010	84	37	0	121	0	0	0	121
2011	103	37	0	139	0	0	0	139
2012	123	37	0	159	0	0	0	159
2013	154	37	0	191	0	0	0	191
2014	165	37	0	201	0	0	0	201
2015	187	37	0	224	0	0	0	224
2016	192	0	0	192	0	0	0	192
2017	200	0	0	200	0	0	0	200
2018	201	0	0	201	0	0	0	201
2019	206	0	0	206	0	0	0	206
2020	212	0	0	212	0	0	0	212
2021	215	0	0	215	0	0	0	215
2022	220	0	0	220	0	0	0	220
2023	228	0	0	228	0	0	0	228
2024	234	0	0	234	0	0	0	234
2025	239	0	0	239	0	0	0	239
2026	245	0	0	245	0	0	0	245
2027	251	0	0	251	0	0	0	251
2028	258	0	0	258	0	0	0	258
2029	264	0	0	264	0	0	0	264
2030	271	0	0	271	0	0	0	271
2031	276	0	0	276	0	0	0	276
2032	285	0	0	285	0	0	0	285
2033	276	0	0	276	0	0	0	276
2034	299	0	0	299	0	0	0	299
NOMINAL	5,251	368	0	5,619	0	0	0	5,619
NPV	1,557	245	0	1,802	0	0	0	1,802

Utility Discount Rate = 8.16
 Benefit Cost Ratio = 9999