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## Section 1: Introduction

This program manual outlines the policies and procedures for Southwestern Electric Power Company's (SWEPCO's) Home Performance with ENERGY STAR® Program (HPwES). Its intention is to guide "implementation and participation" activities, making certain all parties understand the program requirements and their responsibilities. The manual is designed for use by SWEPCO personnel, its customers, and participating contractors. SWEPCO has contracted with CLEAResult to serve as the program administrator.

### 1.1 Program Overview

The Arkansas Public Service Commission's (APSC's) Order No. 7 in Docket No. 13-002-U directed the development of a consistent weatherization approach across all investor owned utilities (IOU), which resulted in an APSC approved consistent approach for weatherization programs called the Core Program. Order Nos. 22 and 23 approved the Core Program, which will offer eligible residential customers the following core energy efficiency measures at no cost:

- Comprehensive energy assessment
- Air sealing
- Attic insulation
- Duct sealing
- Wall insulation
- Direct installation of
  - Advanced power strips
  - Light emitting diode lamps (LEDs)
  - Faucet aerators with electric water heating
  - Low-flow showerheads with electric water heating

SWEPCO has developed a 2017 HPwES Program to align with the Core Program. The Program will be run in conjunction with the local gas utilities that share service territory. To supplement the HPwES Program measures, SWEPCO will offer additional measure through the Residential Energy Improvement Program (REIP). REIP measures are rebated to help reduce the cost of installing more energy efficient measures, and are not included in the no-cost HPwES Program. Contractors will work with both programs wherever possible.

### 1.2 Program Goals

The table below outlines the program's goals and objectives for 2017. Annual energy and demand savings are based on a list of eligible measures installed through the program. Actual energy and demand savings will be calculated using deemed savings calculations as approved by the Arkansas Public Service Commission.

Table 1: Program Goals – Home Performance with ENERGY STAR

Program Year	kWh Savings	kW Savings	Incentive Budget
2017	6,064,00	1,921	\$1,960,00

### 1.3 Contact Information

SWEPCO Home Performance with ENERGY STAR  
 C/O CLEAResult  
 2434 East Joyce Blvd., Suite 6  
 Fayetteville, AR 72703

1-888-266-3130  
 Fax: 479-234-4972  
 info@SWEPCOgridSMART.com  
 SWEPCOgridSMART.com

Table 2: Program Contacts

Name	Company	Role/ Responsibility	Telephone	E-mail Address
Sherry McCormack	SWEPCO	Energy Efficiency Coordinator	479-973-2404	slmccormack@aep.com
Neal Frizzell	CLEAResult	Senior Program Manager	479-935-2998	neal.frizzell@clearesult.com
Lisa Grecho	CLEAResult	Residential Program Manager	479-935-9001	lisa.grecho@clearesult.com
Jacob Nielson	CLEAResult	HPwES Program Lead	479-439-8627	jacob.nielson@clearesult.com

## Section 2: Contractor Participation Process

### 2.1 Contractor Eligibility

The Home Performance with ENERGY STAR Program is implemented by participating contractors, who are responsible for properly installing qualifying improvements and providing eligible services to qualified SWEPCO customers. Participating contractors are required to meet the participation requirements including minimum general liability insurance requirements, state licenses, and program trainings in order to perform specific services associated with the program. To become a participating contractor, the contractor must apply through the annual Request for Qualifications (RFQ) process. In addition to the RFQ response, the following items must be completed and submitted by those chosen via the RFQ process:

- A Contractor Network Application and Agreement
- An IRS W-9 Form
- A Certificate of Insurance, including Worker’s Comp coverage and verifying the following commercial general liability insurance minimums:
  - \$500,000 per occurrence

- \$1,000,000 general aggregate
- \$1,000,000 aggregate for products and completed operations
- The applicable license and/or certification as listed below:

Table 3: Required Contractor Credentials

Measure/Service	Required Certifications and Trainings
Insulation	Arkansas Home Improvement Specialty License <a href="http://www.aclb.arkansas.gov/apply-for-contractors-license">http://www.aclb.arkansas.gov/apply-for-contractors-license</a> (Companies with projects costs exceeding \$2,000 on a project)
Duct Sealing	BPI Building Analyst or RESNET HERS Rater Certification, and Arkansas Class D HVAC License
Air Infiltration	BPI Building Analyst or RESNET HERS Rater Certification
Comprehensive Assessment	BPI Building Analyst or RESNET HERS Rater Certification

## 2.2 Contractor Application Process

### ***Step 1: Apply to the Program via the Annual RFQ Process***

SWEPCO will release an annual RFQ in October to all current contractors, and those who have expressed interest in participation, in order to select the following calendar year's HPwES Program contractors. The RFQ will detail the program requirements and scope, as well as contractor eligibility and expectations for participation. The RFQ process is such that contractors will provide answers to a uniform scored questionnaire as well as submit any supporting documentation (insurance, organizational chart, staff certifications, etc.) required. Each contractor's submission is scored and supplemental documentation reviewed in order to select the most qualified contractors for the program. Once the selected contractors are notified, the Program sets a preliminary meeting to discuss next year's anticipated program allocation.

### ***Step 2: Allotment Process***

Each contractor will be assigned an estimated annual allotment forecasted over 12 months before the new program year begins so the contractor can gauge staffing needs for the coming year. This allotment will be reviewed monthly and may fluctuate as the program year progresses. Factors that may affect allotments are Program budget, Program progress to goals, contractor performance, and unforeseen Program needs. Contractor's performance factors may include monthly allotment completion, savings per home, incentive spend per home, and customer satisfaction.

### ***Step 3: Program Training and Kickoff***

Prior to the start of the new program year, a mandatory Program Training and Kickoff Meeting will be held for all participating contractors. During this meeting the scope of the program will be detailed. It is expected that company principles, assessors, crew leads, and crew members be in attendance. Office staff and other field staff who will work on the program are highly

encouraged to attend. A live webinar may be made available for office staff and principles that cannot make it in person. Each contractor will receive a Contractor Resource Kit that includes the program guidelines, standards, reporting requirements, marketing materials, quality assurance process, and templates. The Contractor Resource Kit will also include a Deemed Savings Calculator that is used to calculate the rebate and savings for each project.

#### **Step 4: Program Review of Contractor Equipment**

As part of the quality assurance process, it will be the responsibility of the contractor to provide the Program access to field tools and equipment for inspection purposes. Prior to starting the new program year and during live QA inspections, each crew working in the program will be required to demonstrate that they have all the required equipment to complete a comprehensive home assessment, including any safety testing. The follow is required equipment expected to be with each crew at every job:

- Blower door, either Minneapolis or Retrotec brand, and proof of calibration in the last 24 months
- Duct tester, either Minneapolis or Retrotec brand, and proof of calibration in the last 24 months
- Monometers (2), one each for blower door and duct blaster, and proof of calibration in the last 24 months
- Combustion analyzer the meets the BPI 1200 Standard that measures “CO air free”
- Personal CO monitor for crew members
- Draft verification device
- Combustible gas leakage tester
- Safety equipment such as eye protection, gloves and respiratory protection
- “No touch” voltage detector
- Pressure pan(s)
- Flow box to measure exhaust fans (for ASHRAE 62.2 compliance)
- Binder(s) with Program manuals, BPI standards (BA, 1100, 1200)
- Binder with the MSDS for any materials used.

Additional tools and equipment may be added by the Program at any time, and proper notification to contractors will be given prior to inspections. During the inspection, should the required equipment not be on the job site, the Program reserves the right to stop all work until proper equipment can be provided. Any inspection failures will result in the necessary corrective action detailed in Section 6.

## **Section 3: Customer Participation Process**

### **3.1 Customer Qualification**

SWEPCO residential customers who meet the following requirements are eligible to participate in the HPwES Program:

- Residential customers served by a SWEPCO electric meter.
- The residence must be individually metered, as verified by an active SWEPCO account number.
- Tenant-occupied dwellings are eligible providing the property owner provides permission.

Manufactured and mobile homes are eligible for rebates, providing all mobility devices have been removed. Homes must have a complete belly board and belly insulation. Homes with diminished belly boards or belly insulation will need those areas fixed prior to installing measures. Any water or other water related issues must also be remedied prior to any work being conducted. Any existing factory ventilation will be maintained as found at the time of assessment. The contractor may elect to repair any of the above listed issues either as part of the program measure installation or at a cost agreed upon by the customer and contractor. Any identified issue must be fully resolved before any program measure may be installed.

In addition to the above requirements, the customer must have had a bill in the last twelve months that exceeded ten cents per square foot or the home's age is 10 years or greater. The home must also have been occupied the previous 12 months and cannot have previously participated in the Arkansas Weatherization Program (AWP), SWEPCO HPwES Program, Black Hills Energy Home Energy Solutions Program, or Arkansas Oklahoma Gas (AOG) Weatherization Program. Those that have previously participated may still participate in SWEPCO's Residential Energy Improvement Program.

Other items that may exclude a home from eligibility include but not limited to:

- The presence (actual or assumed) of mold, asbestos, excessive water intrusion or overall sanitary health concerns.
- Homes that are currently or will be under renovation.
- Homes that have excessive air infiltration or structural issues that present long term durability concern over any installed measures.
- Homes that have open wiring connections, active knob and tube wiring or other unresolved electrical connections.
- Mobile/manufactured homes with diminished or missing belly board or belly insulation.
- Homes with active water leaks (roof, wall, plumbing, , etc.).
- Homes that have vent free fireplaces or appliances that do not have the appropriate ANSI standard.

### **3.2 Customer Participation**

The participation process described below has been developed for SWEPCO residential customers interested in improving their home's energy efficiency using the HPwES Program. See Appendix A for illustration of the Participation Process.

### ***Step 1: Verify Eligibility***

A Customer may call the Program Call Center at 1-888-266-3130 to speak to one of our Energy Advisors. Apply via an online form is also available to verify a home's eligibility. Or customers may print off a form and submit it via fax, email or mail by submitting an Authorization to Release Information Form (available for download on SWEPCOgridSMART.com). An Energy Advisor will verify the customer is eligible to participate and will contact the customer in 3 to 5 business days. The customer will be provided with a participating contractor, or in the event that there is a waiting list, the customer would be added to the list. In the event the customer is not eligible for the program, the program will inform them by either a letter or an email. The customer will also be informed of other programs for which they may be eligible or what criteria, if any, is needed to become eligible. The contractor may also submit a signed Authorization to Release Information Form for the customer, complete with the following information: customer contact information, the SWEPCO account number, estimated age of home, length of occupancy, and contractor contact information.

A waiting list will be established in the event that customer demand is higher than Program or Contractor capacities allow. Customers who are on this list will be provided to contractors as their allotments and schedules allow. They will be distributed in proportion to that contractor's allotment as it relates to the overall yearly goal. It is expected that these customers are contacted and scheduled within 10 business days of receiving the lead. If they are not, the name may be reassigned to another contractor by the Program. The customer will be provided by either email or mail the name and number of their assigned contractor. The customer may also freely request another contractor.

### ***Step 2: Select a Participating Contractor***

All projects must be completed by a participating SWEPCO HPwES Contractor. For information on becoming a participating contractor, please see Section 2 of this program manual. Customers may elect to be provided with up to three participating contractors following their home's eligibility is verified. In the event the customer is put on the waiting list, the next available contractor will be provided the customer's name to contact. The customer may request another contractor if the assigned contractor does not fit their needs. The selection of a participating contractor to perform the work is the sole decision of the customer. An approved contractor list is available on SWEPCOgridSMART.com or by calling 1-888-266-3130. SWEPCO does not endorse any one company, product, or service with the participation of this program, and an Energy Advisor will select three contractors based on the installation measures requested by the homeowner.

A SWEPCO Contractor Network HPwES Contractor must be used for all HPwES projects. HPwES contractors are required to have at least one Building Performance Institute (BPI) certified (BPI Building Analyst, BPI QCI, BPI Energy Auditor or RESNET HERS Rater certified) staff member at each location for the duration of the project and are the point of contact throughout the course of the project.



### ***Step 3: Install Measures***

Upon selecting a contractor, the customer contracts directly with them for the services to be performed. All measures installed or services performed must meet the eligibility requirements in Section 3.1 of this program manual. All measures installed must meet local building code. The customer is solely responsible for any additional costs associated with services or materials provided by the contractor beyond the Core Measures. Additional measures may be eligible for rebates through REIP, such as HVAC systems and ENERGY STAR windows, for a full list of available REIP rebates visit [SWEPCOgridSMART.com](http://SWEPCOgridSMART.com)

To participate in HPwES, the customer must have a comprehensive energy assessment completed by a qualifying HPwES contractor. The customer should expect the contractor to do a brief interview regarding the home and the owner's comfort needs prior to conducting the assessment. They may also collect energy consumption data from the past year in order to establish base load versus seasonal energy use. The homeowner can request twelve months of electric usage data using an Authorization to Release Information Form. The homeowner can identify the assessment contractor they are using, sign the form, and allow the contractor access to their usage data sent by the Program.

The home energy assessment will include a complete visual and diagnostic assessment of the home's exterior and interior, including basement or crawl space and attic, heating and cooling equipment, hot water system, duct work, windows, major appliances, and lighting. The assessment contractor may also perform diagnostic testing, including blower door, duct blaster, and combustion appliance zone (CAZ) testing. Direct Install Measures, such as low-flow showerheads, faucet aerators, CFLs or LEDs, and advanced power strips, may be installed by the contractor during the assessment. The comprehensive assessment of the home results in targeted recommendations made by the contractor. The contractor will produce a report on all assessment findings, improvements completed, additional recommended cost effective improvements, and calculate the potential incentives and estimated energy savings of those improvements..

If work was not installed in conjunction with the assessment, the customer after reviewing the assessment report, will select the measures to be installed. The assessment contractor will install the measures or sub-contract the work to a member of their Home Performance Team to complete the project. Upon completion of measure installation, the assessment contractor will conduct a final inspection and any required test-out procedures to verify the results.

### ***Step 4: Project Submission***

Upon completion of the project, the contractor enters all project data into the CLEAResult online weatherization portal, uploading any required documentation including photos, invoices, and the assessment report. The Customer will sign the participation forms prior to contractor submission. The Customer will receive a paper or electronic copy of the Terms and Conditions at the time of the assessment.

In the case where the online portal is not available for an extended period of time the Program will provide contractors with a paper form and instruction on its use.,

All required project paperwork must be submitted to SWEPCO within 30 days of invoice date for review and verification that the upgrade or service performed meets program standards.

Along with the contractor’s invoice, and customer and contractor signatures, the following documentation, based on what measure installed or service performed, should also be submitted.

Table 4: Required Supplemental Documentation for Home Performance with ENERGY STAR

Measure / Service	Required Documents
Air Sealing Duct Sealing	Contractor’s assessor with required credentials must sign the Terms and Conditions page. Required credentials include BPI Building Analyst, BPI QCI, BPI Energy Auditor, or RESNET HERS Rater Certification. Installing crew members will initial in the space provided.
Comprehensive Assessment	Copy of assessment report signed by the certified HERS Rater or BPI Analyst who performed the assessment and required post testing.

**Step 6: Receive Rebate**

The customer’s rebate is automatically assigned to the contractor who will receive their rebate check or direct deposit within four to six weeks of the receipt of a completed Project Completion Form or online portal submission. The Program will contact the contractor if additional documentation is required, or if calculations need to be clarified, which can delay payment on the project.

**Step 7: Schedule Inspection**

The HPwES Program provides a quality assurance inspection for a maximum of 10% of all completed projects. Customers who participate in the program agree to make their homes available to the program or to a third party to verify the proper installation of eligible equipment. During the final inspection, technical information will be collected from the homeowner, and/or contractor and performance testing may be performed to verify the work that has been completed meets program requirements.

**3.3 Core Measures and Rebate Rates**

Table 5: Rebate Rates by Measure

Measure	Requirements/Existing Conditions	Improvement Levels	SWEPCO Rebate Rate	Joint Utility Rebate Rate
<b>Comprehensive Energy Assessment (CEA)</b>	<ul style="list-style-type: none"> <li>CEA defined in Section 4.4</li> <li>CEA Customer Report</li> <li>Installed measures</li> </ul>	Up to 750 Sq. Ft. Over 750 Sq. Ft.	\$150.00 \$300.00	\$75.00 \$150.00
<b>Duct Sealing</b>	<ul style="list-style-type: none"> <li>"Leakage to Outside" testing method only</li> <li>Pre levels <math>\geq</math> 80 CFM@25pa</li> <li>40% of system flow (400cfm/ton) leakage cap</li> </ul>	Minimum of 25% reduction	\$1.25/CFM of reduction	\$.57/CFM of Reduction
<b>Air Sealing</b>	<ul style="list-style-type: none"> <li>MVR standard must be maintained.</li> </ul>	20% Reduction	\$.12/CFM of Reduction	\$.07/CFM of Reduction
<b>Attic Insulation</b>	<ul style="list-style-type: none"> <li>Existing levels <math>\leq</math>R-14 of installed area</li> <li>R-38 Final Insulation level</li> </ul>	R-0 - R-1 R-2 - R-4 R-5 - R-8 R-9 - R14	\$0.80/sq.ft. \$0.75/sq.ft. \$0.70/sq.ft. \$0.65/sq.ft.	\$0.40/sq.ft. \$0.38/sq.ft. \$0.35/sq.ft. \$0.33/sq.ft.
<b>Wall Insulation</b>	<ul style="list-style-type: none"> <li>No existing wall insulation</li> <li>May only be installed where aluminum or vinyl siding can be removed to drill and fill from outside</li> </ul>	R-13	\$1.20/sq.ft.	\$1.20/sq.ft.
<b>Direct Installs</b>	<ul style="list-style-type: none"> <li>Required Contractor installation only</li> <li>All replaced equipment removed from home</li> </ul>		Electric Water Heating	Gas Water Heating
<b>Advanced Power Strips (APS)</b>	<ul style="list-style-type: none"> <li>Program approved APS</li> <li>Customer informed on use and given user's manual</li> </ul>	Home Entertainment Home Computer	\$30.00	\$30.00
<b>ENERGY STAR LED Bulbs</b>	<ul style="list-style-type: none"> <li>Replaces incandescent and Halogen in high use areas indoor and outdoor</li> </ul>	A19 Bulbs Specialty(B11 or G25) BR30 Bulbs	\$5.00 \$7.00\$8.00	\$5.00 \$7.00\$8.00
<b>Low Flow Showerheads</b>	<ul style="list-style-type: none"> <li>Existing <math>\geq</math>2.5 GPM</li> <li>Approved SH only</li> </ul>	1.5 GPM or less	\$12.00	Paid by Gas program
<b>Low Flow Aerator</b>	<ul style="list-style-type: none"> <li>Existing <math>\geq</math>2.2 GPM</li> </ul>	Kitchen: 1.5 GPM Bath: 1.0-1.5 GPM	\$4.00 \$4.00	Paid by Gas program

### 3.4 Rebate Rate for Gas Served Homes

Rebates are paid to the contractor in accordance to the eligible utility programs for the home. If the home is an all-electric SWEPCO home, the SWEPCO Rebate Rate in Table 5 will be paid to the contractor by SWEPCO. In the case where the home has SWEPCO electric service but is

heated by gas, and the home is eligible for a gas company program, the Joint Utility Rebate Rate as shown in Table 5 will be paid. In the case where the gas utility program servicing the home runs out of program budget, SWEPCO will pay the SWEPCO Rebate Rate for the project. The contractor must utilize all available utility programs applicable to the home, within respected allotments.

The following limitations apply to the payment of rebates:

- Homes that have previously been paid a rebate on any measure are not eligible to be paid again for that same measure in any program.
- Where applicable, rebates will be submitted to both SWEPCO and any applicable Gas Utility program.
- Multiple rebates can be paid for more than one installation of the same “type” of measure. For example, a home may have two duct systems sealed, or two separate ceiling areas with differing pre insulation levels.
- A Project Completion Form or online project form must be submitted within:
  - Sixty (60) days of the date of the initial HPwES Assessment, or
  - Thirty (30) days of installed measures
- Before a rebate is paid for any work performed on a project, Residential Program staff will provide a complete review of all projects and submitted documentation. See Section 6 of this program manual for an overview of the Quality Assurance Plan.

The Program reserves the right to conduct a quality assurance inspection prior to paying on a project, and upon passing inspection the project will be paid accordingly.

## **Section 4: Contractor Participation Process**

### **4.1 Customer Acquisition**

Customer acquisition is the responsibility of the contractor and may be accomplished by typical and accepted marketing efforts such as print, social media, word of mouth, etc., detailed in Section 5. Customers who contact the program may be provided with contractor names or assigned to a contractor through the waiting list process as described in Section 3. Contractors should limit their marketing efforts to keep within their allotments, and they shall refer any customers they cannot reasonably service back to the program to be reassigned. At no time should a customer be led to believe the Program is out of funds or not running when the contractor may be fully subscribed or out of budget. In such cases the contractor should refer the customer to the program to be assigned to a contractor who can serve their needs.

The contractor will need to gather the appropriate information to confirm the house meets the participation requirements of the program. This is done by submitting an eligibility form through online submission or an Authorization to Release Information Form. The contractor will either obtain a signed Authorization to Release Information Form from the homeowner or direct the homeowner to SWEPCOgridSMART.com to submit one to the Program either by paper or through the web form, citing their company as the customer’s preferred contractor. Upon receipt

of the signed Authorization to Release Information Form, the Program will verify the home's age, program history, high bill, and that occupancy requirements meet the eligibility criteria, and upon approval, the contractor will receive detailed electrical usage history (see Section 3.1). In the case a home does not qualify both the homeowner and contractor will be notified.

## 4.2 Scheduling

Assessments and retrofit work should be scheduled as close together as possible. Customer time is valuable and should be respected. Ideally, they are scheduled within a couple weeks of each other. Exceptions to this may fall into safety or code issues, e.g., open wires or knob and tube wiring in the attic. In the case of excessive gaps between assessment and energy improvements, contact with Program should be made in order to keep Program staff informed and to prevent any potential Corrective Action.

## 4.3 Assessment & Installing Measures

The customer contracts directly with the contractor for the services to be performed. All measures installed or services performed must meet the eligibility requirements in Section 3 of this program manual as well as the best practices found in Section 4. All measures installed must meet local building code and any other State, Federal or applicable Safety codes. The customer is solely responsible for any additional costs associated with services or materials beyond the Core Measures provided by the contractor.

## 4.4 Comprehensive Energy Assessment

The Comprehensive Energy Assessment (CEA) shall include, at a minimum, the following elements:

- **Customer Interview:** At some point before, during, or after the physical inspection of the property, the participating contractor shall interview one of the primary occupants of the home to identify any specific issues the customer is seeking to address through the HPwES program and typical occupant behavioral patterns as they relate to the performance of the home.
- **Review of Energy Bills:** The participating contractor shall also request historical energy (electric and gas) bill data from the customer as part of the CEA. This usage may be obtained directly from the customer or via the Authorization to Release Information Form. A review of energy consumption data is critical to determining how the homeowner uses energy; not having this information limits the effectiveness of the CEA. When historical fuel-use data is available, the participating contractor shall review that data to identify patterns that will inform the prioritization of recommended measures and confirm that projected energy savings estimates are realistic. At a minimum, the participating contractor shall review customer-reported annual or monthly energy costs and use it as a benchmark against estimated cost-savings predictions.

- **Combustion Appliance Safety Evaluation:** When combustion appliances and/or space heating equipment are present in the home, a combustion appliance safety evaluation shall be completed following BPI 1200 protocols see Appendix C.
- **Visual Home Inspection:** A visual inspection shall be completed of the home's exterior, interior, thermal envelope and enclosure, and all mechanical systems (including equipment, distribution systems, and controls). Any safety hazard or otherwise unsafe conditions should be identified such as asbestos, mold, water intrusion, knob & tube wiring, etc.
- **Diagnostic Tests:** Instrumented diagnostic testing shall be completed as part of the CEA process as required to effectively assess the home's energy performance, produce energy savings estimates, and develop an accurate list of recommended improvement measures.
- **Data Collection:** Observed and measured data shall be recorded during the CEA including: documentation of the home's physical geometry, features, and measurements; identification and performance data for space heating, cooling, ventilation, and domestic hot water equipment and systems; existing type, quantity, and condition of thermal elements of the building enclosure; evaluation of envelope air leakage paths; and information about existing lighting and major household appliances which may be used to inform customers of opportunities for improvements.
- **Pictures.** The following pictures will be taken, retained, and made available to Program staff for quality assurance/quality control (QA/QC) or other purposes.
  - Front of the house from street showing whole house and house number
  - All equipment data plates (HVAC, water heating, etc.)
  - Pre- and post-monometer readings for ducts and air infiltration, taken side-by-side with top portion of project completion form w/address & name visible
  - Pictures of any major issues, e.g., water damage, mold, air leakage, duct leakage etc.
  - Picture of energy bill summaries
  - Picture of meter

#### 4.5 CEA Customer Report

The contractor will produce a report on all assessment findings; measures installed, additional recommended cost effective improvements, and calculate the potential incentives and estimated energy savings via provided rebate/savings calculator. Additionally, a brief summary of complete work should be included or detailed in each section. If work was completed in conjunction with the initial CEA, the report should reflect what improvements were made, other recommendations, and savings estimates as well as all other aspects listed below. The customer will receive their report preferable the day of the assessment or within 14 days.

Table 6: Require Elements of Comprehensive Energy Assessment Report

	Required Elements	Description
<b>General Information</b>	<ul style="list-style-type: none"> <li>- Participating contractor name</li> <li>- Contractor contact information</li> <li>- Identification of the contractor's qualifying credential(s)</li> <li>- Name of technician completing the CEA</li> </ul>	Annotates the company taking primary responsibility for the HPwES project. This is the contractor of record who will be credited with the project in data reported to DOE.
	<ul style="list-style-type: none"> <li>- Customer name</li> <li>- Assessed home's address</li> </ul>	A Picture of home's exterior will be incorporated into report cover sheet along with customer name and address.
	<ul style="list-style-type: none"> <li>- Date of CEA</li> </ul>	The date that the primary assessment site visit was conducted.
	<ul style="list-style-type: none"> <li>- Executive summary</li> </ul>	A quick summary of 1 page or less. Detailing all found and addressed issues, any improvements made at the time of work. Directly addressing any of the customer's initial concerns, energy usage and behavior factors.
<b>Existing Conditions</b>	<ul style="list-style-type: none"> <li>- Building envelope air leakage evaluation</li> </ul>	Results of the visual inspection shall be recorded, including a preliminary identification of leakage paths to be sealed or general scope of air sealing work to be completed as a recommended improvement measure
	<ul style="list-style-type: none"> <li>- Thermal barrier condition assessment</li> </ul>	Includes all walls, floors, ceilings and other enclosure elements comprising the envelope of the building. The report shall document the general conditions and estimated existing R-value (or U-value) for each unique surface.
	<ul style="list-style-type: none"> <li>- Mechanical systems inventory and condition assessment</li> </ul>	Includes identification of all heating, cooling, domestic hot water, and ventilation systems in the home by system and distribution type; fuel type; make and model numbers; rated and/or measured operating efficiencies; and condition evaluation.
	<ul style="list-style-type: none"> <li>- Heating and cooling distribution system condition assessment</li> </ul>	Includes a description of the existing heating and/or cooling distribution system by location, insulation condition, leakage assessment, and general condition evaluation including potential design flaws to be considered for improvement.

	Required Elements	Description
	<ul style="list-style-type: none"> <li>– Lighting and appliance assessment</li> </ul>	Includes a general description of the overall condition, age, and efficiency (if available) of major household appliances in the home as well as a general evaluation of the opportunity for efficiency improvements to the existing lighting. Note: a detailed inventory of all lighting and appliances in the home is not a requirement.
Proposed Improvement	<ul style="list-style-type: none"> <li>– Prioritized list of recommended improvements</li> </ul>	Includes home performance improvement measures identified during the assessment. Prioritization shall be determined based on: (1) resolving health and safety related issues; (2) satisfying customer needs and desires; (3) overall cost-benefit to the customer; and (4) programmatic goals. The loading order of recommended improvements shall be consistent with industry-accepted standards and building science principles.
Health and Safety	<ul style="list-style-type: none"> <li>– Documentation of moisture-related problems</li> </ul>	Includes signs of water intrusion, condensation, mold, and water stains; suspected sources and causes; and recommended repairs.
	<ul style="list-style-type: none"> <li>– Results of combustion appliance evaluation</li> </ul>	Includes a general condition assessment based on visual inspection as well as results of diagnostic tests used to evaluate fuel leaks, carbon monoxide, and drafting of flue gases.
	<ul style="list-style-type: none"> <li>– Identification of hazardous conditions and recommended mitigation measures</li> </ul>	Includes repairs that must be completed prior to or concurrent with energy-related improvements (e.g. electrical repairs, roof replacements, asbestos removal, etc.).
Savings	<ul style="list-style-type: none"> <li>– Estimated energy savings</li> </ul>	Includes projected site energy savings associated with the completed measures and also any recommended improvements. This may be presented in terms of reduced fuel consumption, reduced costs, and a percentage improvement over existing conditions. Savings estimates shall clearly indicate whether savings are projected for electricity, heating, cooling, or total household energy consumption.
Signature	<ul style="list-style-type: none"> <li>– Signature of Assessor and date of signature</li> </ul>	Final requirement.

After reviewing the assessment report the customer will select the measures to be installed. The HPwES contractor will install the measures or sub-contract the work to a member of their Home



Performance Team to complete the project. Upon completion of measure installation, the assessing contractor will conduct a final inspection and any required test-out procedures to verify the results.

In the event the assessment and installed improvement are done concurrently or in tandem, the report may be developed following the work and should reflect all of the above requirements as well as address the completed improvements and detail estimated savings for both the completed measures but also any other suggest improvements.

#### 4.6 Best Practices

All installed measures will be installed using best industry practices and done so in a durable and lasting manner. Any question on methodology or material use should be directed to the Program for clarification/approval. Best practices are detailed below in general terms and should be used as a guide only. Practices, methods, or materials that are used that do not meet the Program’s intent may require homes to be rectified by the contractor.

Table 7: Measure Best Practices

Measure	Best Practice	Cautions, un-approved methods
<b>Air Sealing: General</b>	Sealing should be done in a manner that is durable and where visible done in a clean and unobtrusive manner <u>Approved Materials:</u> <ul style="list-style-type: none"> <li>• Expanding Foam - used only in non-visible area, large excesses cut back.</li> <li>• Caulking – Clear paintable caulk is preferred where visible.</li> <li>• Caulking with backer rod – for larger gaps where expanding foam is inappropriate</li> <li>• Gaskets – switch plates, etc.</li> <li>• Spray mastic – not visible areas.</li> <li>• Drywall spackle.</li> </ul>	Foil tape will not be used for air sealing.  “Duct” tapes are not an appropriate sealant for any measure.  Adhesive sheeting will not be used on wood or sheetrock. Any other use must be approved prior to use.  Active Knob and Tube wiring must not be present in the home if insulated or air sealed.
<b>Air Sealing: Exterior doors</b>	Screw or nail on weather stripping (w/s) with metal flange is preferred. Kerf weather stripping is preferred on newer doors with existing kerf. It is preferable to raise adjustable thresholds rather than adding a door sweep to any exterior door.	Adhesive w/s will not be used on exterior doors.  Customer involvement is required if using mechanically fastened w/s, primarily in color choice.

<b>Air Sealing: Mechanical Doors</b>	<p>Adhesive weather stripping may be used on mechanical closets if stapled in place to ensure longevity.</p> <p>If louvered doors are covered to isolate a CAZ, 1/8" plywood screwed to door with edges caulked is preferred.</p> <p>If isolating a CAZ by sealing the mechanical door, the entire doors (four sides) must be have a combination of w/s and or door sweeps installed.</p>	<p>Adhesive may be used on mechanical closets if stapled in place.</p> <p>Mastic and foil tape are not acceptable to seal a door.</p>
<b>Air Sealing: Windows.</b>	<p>V-strip may be mechanically fastened to help seal windows.</p> <p>Weight pocket covers should be used on older windows to seal off weight pockets.</p>	<p>Windows should not be caulked shut, even by customer request.</p> <p>Weight pockets should never be foamed or caulked.</p> <p>If customer has seasonal plastic coverings on windows (winter), the home should not have air infiltration done till those coverings are all completely removed.</p>
<b>Duct Sealing</b>	<p>Preferred methods</p> <ul style="list-style-type: none"> <li>• Mastic with mesh tape: layer of mastic followed by fiberglass mesh tape topped with mastic</li> <li>• Mastic – bucket or tube based</li> <li>• Aerosolized Mastic</li> <li>• UL 181 tapes – appropriate rating for duct type being sealing.</li> <li>• Caulking</li> <li>• Expanding foam</li> </ul>	<p>Compliance with product MSDS is required.</p> <p>Mechanical data tags should never be covered.</p> <p>Filter doors should not be sealed shut.</p> <p>Registers/grills should never be caulked to the surrounding sheetrock.</p>
<b>Attic Insulation</b>	<p>General notes:</p> <ul style="list-style-type: none"> <li>• Insulation paid by Program may only be installed over conditioned space.</li> <li>• Converted spaces such as garages and porches may be insulated as long as those spaces are actively conditioned and in livable state.</li> <li>• Insulation for new construction is not allowed.</li> <li>• Insulation on large in-depth remodels may be allowed with Program approval. If existing attic insulation is not verifiable or has been recently evacuated, the measure may no longer be eligible. Contact Program to evaluate the situation as early as possible.</li> </ul>	<p>Open wire connections must be enclosed to code specs before insulation is installed.</p> <p>Active Knob and Tube wiring must not be present in the home if insulated or air sealed.</p> <p>Care should be taken to avoid any insulation falling in HVAC or DWH drain pans. Any insulation in</p>

	<p>Existing Insulation level evaluation</p> <ul style="list-style-type: none"> <li>• If batts are present, use the BPI “Effective R-values of Batt Insulation” Chart found on page 8 of the BPI standards in Appendix C.</li> <li>• To determine insulation levels and an average of the area to be insulated should be evaluated to an average number of inches and multiplied by the R-Value of the existing insulation type: page 7 of BPI Standards in Appendix C.</li> <li>• Large areas missing or substantially lower than that of the rest of the attic should be noted and factored into the overall average.</li> </ul> <p>Attic Prep General:</p> <ul style="list-style-type: none"> <li>• Electrical inspection should be done to identify any possible issues/hazards.</li> <li>• Baffles installed in all vented bays and mechanically fastened to prevent falling.</li> <li>• Insulation depth markers are required to be installed spread out and visible from the attic access at a minimum of 4, or 1 per 300 square feet whichever is higher.</li> </ul> <p>Attic Prep Can Lights/B-Vents:</p> <ul style="list-style-type: none"> <li>• Non-IC rated can lights should have cones, boxes or some other device (purchased or site made) installed to keep insulation out of direct contact with can and providing a 3” air space unless otherwise specified by manufacturer. Using boxes can aid considerably on air sealing if installed with sealant.</li> <li>• “B-Vents” should have nonflammable devices installed to keep insulation from making direct contact and maintaining a minimum of 1” air space from all combustibles unless otherwise specified by manufacture/code.</li> </ul> <p>Attic Prep Dams:</p> <ul style="list-style-type: none"> <li>• Dams should be high enough to extend beyond the installed height of insulation ensuring full insulation height to edge of area insulated.</li> <li>• Dams are installed wherever a change in ceiling high or adjacent to an uninsulated section.</li> <li>• Dams should be installed around whole house fans.</li> <li>• Dams should be installed around attic accesses where access is directly adjacent or in insulated area.</li> </ul>	<p>those pans should be fully removed</p> <p>Vermiculite insulation is present. Obtain professional advice. Vermiculite insulation may contain asbestos and must be tested for such prior to the attic being insulated and or air sealed. Contact the State Department of Health at (501) 661-2171</p> <p>Dams around attic accesses should be made out of a durable material that will sustain a person climbing through such as OSB or dimensional lumber. Foam board or other such materials should not be used in this area.</p>
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	<p>Attic Prep Hatch:</p> <ul style="list-style-type: none"><li>• Attic hatches (scuttle holes) must be insulated to the same final level of the rest of the attic (R-38) if it sits over conditioned space.</li><li>• The insulation must be attached to the cover by adhesive or mechanical means.</li><li>• The attic hatch should also be weather-stripped for air sealing.</li></ul> <p>Attic Prep Drop Down Stairs:</p> <ul style="list-style-type: none"><li>• Attic stairs that sit over conditioned space should be insulated to the same level (R-38) as the attic surround.</li><li>• The stairs also should have a dam installed to maintain insulation levels of surrounding attic and prevent insulation falling in. Some foam board with batts attached is a low cost/labor solution.</li></ul> <p>Attic Prep Decking:</p> <ul style="list-style-type: none"><li>• The customer should be instructed to remove all storage items from attic to ensure proper insulation levels are achieved, safety is ensured, and items are not covered with insulation.</li><li>• Areas with decking or flooring installed over conditioned space require a full R-38 value.</li><li>• Decking must be pulled up to be fully insulated underneath.</li><li>• Decking with insufficient space under to achieve a full R-38 should be removed completely, framed up to achieve a full value, or pulled up, insulated under, then insulated over top to achieve a full value.</li></ul> <p>Attic Prep Wall Cavities, Interior Soffits &amp; Chases:</p> <ul style="list-style-type: none"><li>• Open wall cavities should be blocked and sealed prior to insulating.</li><li>• Interior drop-down soffits like those in kitchens and bathrooms should be either filled full with insulation or securely covered over and sealed.</li><li>• Open chases should be securely covered and sealed prior to insulation.</li></ul> <p>Insulation Installation Sheet:</p> <ul style="list-style-type: none"><li>• Upon completion, an Insulation Installation Sheet per Arkansas Building Code will be posted in the attic near the access. The Sheet will note company name, date of install, type and brand of</li></ul>	
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	insulation used, number of bags used, previous insulation R-Value, final R-Value, name of installer, and installer signature.	
<b>Wall Insulation</b>	<p>Wall insulation will be installed in enclosed wall cavities by drill and fill methods via outside access. Upon completion there will be no visible evidence of work.</p> <ul style="list-style-type: none"> <li>• Removing top course of aluminum or vinyl siding is acceptable to access wall.</li> <li>• Care taken to insulate all cavities, including under windows and below any fire blocking.</li> <li>• Holes will be snugly plugged with tapered wood or plastic plugs.</li> <li>• Any disturbance of vapor or moisture barriers will be remedied prior to siding being reinstalled.</li> </ul>	<p>If knob and tube wiring is present, insulation cannot be installed.</p> <p>No visible holes will be left at completion of job.</p> <p>Drilling through exterior cladding is not acceptable.</p> <p>Drilling through interior walls is not acceptable.</p>
<b>Advanced Power Strips (APS)</b>	<p>Care should be taken when installing APS; customer input should be used to determine what components will be plugged into APS.</p> <p>The customer should be informed on the use and benefits of their new APS, and the manual/warranty sheet should be left with the homeowner.</p>	<p>Devices with a hard drive should not be installed in a switched outlet. Such as DVR's, computers, some gaming platforms etc.</p>
<b>Low Flow Showerheads</b>	<p>Installed showerheads must be 1.5 GPM or less. All installed shower heads must be approved by the program before use.</p>	<p>The shower arm should be supported when removing and installing showerheads to prevent cracks, splits in pipes or shower arm.</p> <p>Manufacturer's installation procedures should be followed.</p>
<b>Low Flow Aerators</b>	<p>Kitchen faucets should have no less than 1.5 GPM aerators installed.</p> <p>Bathroom faucets may have .5-1.5 GPM aerators installed.</p>	<p>Care should be used to avoid cross-threading the aerator.</p> <p>Manufacturer's installation procedures should be followed.</p>
<b>LEDs</b>	<p>Should only be installed in commonly used areas on high use lamps or fixtures.</p> <p>Only used to replace incandescent and halogen bulbs.</p> <p>In rental homes, only the permanently installed fixtures may have bulbs installed.</p> <p>All removed light bulbs will be discarded by contractor.</p>	<p>May be installed with dimmer if bulb is a dimmable type.</p> <p>CFL's will not be replaced.</p>
<b>Cleanliness</b>	<p>Great care will be taken to keep the home and yard free from any debris, trash, or materials following completion of work.</p> <p>Surfaces should be protected from accidental drops, spills, or damage from tools, ladders, chemicals, sealants, etc.</p>	

	Dust should be swept or vacuumed following work.	
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**4.7 Submit Project Completion Form/Online Portal/Payment**

Upon completion of the project, the contractor enters all project data into the CLEAResult weatherization online portal, uploading any required documentation, which includes photos, invoices, and the assessment report. The Customer will sign the terms and conditions form prior to contractor submitting. Customer will receive a copy of their signed terms and conditions either paper or electronic copy at the time of the assessment.

In the case where the online portal is not available for an extended period of time the Program will provide contractors with a paper form and instruction on its use., All required project paperwork must be submitted to SWEPCO within 30 days of invoice date for review and verification that the upgrade or service performed meets Program standards.

Along with the contractor’s invoice, and customer and contractor signatures, the following documentation, based on what measure installed or service performed, should also be submitted.

Table 8: Required Supplemental Documentation for Home Performance with ENERGY STAR

Measure / Service	Required Documents
Air Sealing Duct Sealing	Contractor’s assessor with required credentials must sign the Terms and Conditions page. Required credentials include BPI Building Analyst, BPI QCI, BPI Energy Auditor or RESNET HERS Rater Certification. Installing crew members will initial in the space provided.
Comprehensive Assessment	Copy of assessment report signed by the certified HERS Rater or BPI Analyst who performed the assessment and required post testing.

The contractor will receive their rebate checks within four to six weeks of the complete paperwork and/or online portal submittal. The Program may contact the contractor if there is missing documentation or to verify the rebate calculation. The contractor may also request to be paid directly by direct deposit; a participation form is available upon request.

**4.8 Inspections**

The Program has a formal Quality Assurance and Quality Control (QAQC) process outlined in Section 6 of this program manual. All participating contractors are subject to this process. The Program will conduct quality pre-inspections, live “ride-along” inspections, and post-inspections or any combination therein, for five to ten percent of the projects. The contractor will be notified via email the results of QAQC on any of their jobs. If a project does not pass inspection, the contractor will be formally notified of any issues found during the inspection, and the contractor

will be provided with a timeframe and possible Corrective Action Form to rectify the issues. A subsequent inspection will be conducted, and if the issues are not corrected, the contractor may be requested to reimburse the program for all rebates paid for the project.

If a contractor has repeated project inspection failures, they may be subject to suspension or removal from the Program. For additional information about the QAQC process, please review Section 6 of this program manual.

## **Section 5: Marketing**

SWEPCO is committed to increasing customer awareness and demand for energy efficiency programs and services to help them reduce energy use and save money. The Program marketing campaign will promote the value of energy efficiency upgrades, comprehensive home energy assessments, associated cost savings, and links between energy usage and the environment. The campaign will also direct customers to the available rebates and Contractor Network.

Campaign tactics and messages will be tailored to maximize customer participation by season, demographics, and attitudinal differences among customers. Key tactics may include:

- Radio
- TV
- Direct mail and email campaigns
- Print
- Online advertising
- Website and social networking sites
- Direct outreach to customers
- Homeowner education materials
- Contractor Network marketing materials

The marketing tactics will raise awareness on the benefits of energy efficiency upgrades and the availability of energy improvements via the HPwES Program and promote the certified SWEPCO Contractor Network. The marketing plan will provide marketing materials to educate homeowners and maximize market penetration and understanding. All messaging will direct consumers to SWEPCOgridSMART.com and Program 800 number to learn more and to find a Network Contractor. The marketing tactics are part of an integrated marketing plan to create a holistic campaign supporting SWEPCO's gridSMART initiative.

### **5.1 Customer Education Materials**

The following customer education materials may be distributed by contractors, available for download or request via the website, and will be distributed by Program staff at trade shows and other direct outreach events.

- SWEPCO Residential brochure

- SWEPCO Home Performance with ENERGY STAR brochure
- Rebate Rate Tables
  - Residential Energy Improvement Program
  - HPwES
- ENERGY STAR brochures, including “What to Expect from Home Performance”, “Duct Sealing”, “Seal and Insulate with ENERGY STAR”, etc.

## 5.2 Contractor Marketing Materials

In addition to customer education materials, the Program will deploy materials to assist contractors in marketing and sales. The materials may include:

- Customizable advertisement or flyer templates for contractors who want to place their own ads to promote their services under the program.
- Post-energy assessment leave-behind materials designed to keep the homeowner interested in signing a contract for measures promoted under the REIP program.
- HPwES logo for advertising, marketing, and sales materials.
- Yard sign template.
- Other materials as the budget allows.

These materials will be accompanied by branding guidelines so that contractors are aware of any constraints on the use of program, SWEPCO or EPA/ Department of Energy- (“DOE”-) related names, logos, and/or signage. Any use of SWEPCO and DOE/EPA marks will be approved by the Program prior to any use of them. The SWEPCO programs require a signed Co-branding Agreement in order to utilize the gridSMART logo, and it is available upon request or on the SWEPCOgridSMART.com Contractor Center page.

Marketing tactics not listed in this section, such as direct phone or “robo-calling”, are expressly not allowed for marketing in any SWEPCO program.

## 5.3 Home Performance with ENERGY STAR Marketing

Contractors may access the HPwES Marks and marketing via their My ENERGY STAR Accounts (MESA) accounts. Approval by the Program is needed with any use of the ENERGY STAR Marks, whether in conjunction with SWEPCO programs or not. As the Program Sponsor, SWEPCO will approve and verify proper use of the HPwES mark use. Any use outside is not allowed.

# Section 6: Measurement and Verification and Quality Assurance

## 6.1 Measurement and Verification

The HPwES Program includes Measurement and Verification (M&V) by Program Energy Advisors. The demand and energy savings of each project will be calculated using the Deemed Savings, Installation, and Efficiency Section of the Arkansas Technical Reference Manual (TRM). The Deemed Savings of the TRM represent best estimates of the average impact of a



measure on the electric utility’s system at the customer’s meter when installation standards are met.

The M&V of each project will verify that the installed equipment or service meets the program eligibility requirements. Projects will be verified by a combination of project documentation review, pre-inspections, on-site (ride-along) inspections, post-inspections, and customer surveys. Third party evaluation will be conducted by a SWEPCO contracted Evaluation, Measurement and Verification (EM&V) Contractor and the Statewide Independent Monitor to verify program savings.

## **6.2 Quality Assurance**

This section outlines the quality assurance and control process (QAQC) for the HPwES Program. Quality assurance protects customers by providing a review of the work performed by participating contractors to ensure that it meets program standards. It also serves to validate the work completed by the contractor, which improves customer trust in Program and its contractors. This section is intended to outline the roles and responsibilities, the workflow, the data collection and analysis, corrective action measures, and the escalation process.

### **6.2.1 Goals and Objectives**

The goals of the QAQC plan are to:

- Confirm network contractors are installing measures according to program guidelines;
- Validate the accuracy of information submitted to the program; and,
- Maintain high quality contractors within the SWEPCO Contractor Network.

The objectives of the goals listed above are to:

- Provide customers with high quality service contractors;
- Identify inconsistencies and misinterpretations of state and local guidelines; and,
- Establish continuous feedback loop and facilitate corrective actions and improvements.

### **6.2.2 Roles and Responsibilities**

Establishing roles and responsibilities in a QAQC plan maintains organization and accountability. Below is a list of the roles for the program:

Table 9: Roles and Responsibilities

<b>Roles</b>	<b>Organization</b>
Program Sponsor	SWEPCO
Program Manager	CLEAResult
Service Providers	Approved Network Contractors
Program Verification	CLEAResult
Verification Oversight	EM&V Contractor and Statewide Independent Monitor

CLEAResult will lead program delivery and provide administration services. The approved contractors will install measures for SWEPCO customers, providing a high level of service and quality. The program's Energy Advisors will verify those measures with additional oversight provided by the EM&V Contractor and Statewide Independent Monitor.

### **6.2.3 Monitoring and Measuring**

Program staff will review the completed projects in two stages: 1) at project documentation submittal, and 2) with on-site inspection(s) of installed measures. Program staff may also perform onsite inspections prior to and during contractor installation. Program staff will evaluate project documentation and conduct on-site inspections using defined quality indicators and acceptable variances as defined in Step 2 of the quality assurance process. Any inspections resulting in a non-conformance will require a Corrective Action Plan, and repeat contractor nonconformance issues will be dealt with using an escalation process as defined in Section 6.2.5. Any chronic non-conformances could result in suspension or removal from the Program. A key objective of the QAQC process is to ensure customer satisfaction with the Program. A monthly customer survey will be utilized for all participating customers as follow-up upon completion of their project. See Appendix A for the QAQC Process Pathway.

#### **Step 1: Project Documentation Review**

##### **Conducted on 100% of Projects**

Before a rebate is paid for any work performed on a project, Program staff will provide a complete review of all projects and submitted documentation. This data is used to calculate final rebate payments to customers and contractor and to report energy efficiency savings. The review will ensure that all required information is collected including signatures, dates, and project specific data. In the event that information is missing, the contractor will be asked to provide the missing information or re-submit a corrected form. The contractor may also be requested to provide the picture documentation noted in Section 4.4. This review includes:

- Contractor eligibility
- Valid SWEPCO account
- Measures installed and/or services performed meet eligibility requirements
- Verify supplemental document(s), e.g., CEA report
- Verify kW and kWh savings and rebate calculations

#### **Step 2: On-site Inspections**

##### **Minimum of 5% of projects inspected**

Program staff will conduct field inspections. The inspections will consist of an on-site inspection of completed projects and all installed measures. Inspections will be conducted on a minimum of 5% average of the total completed projects by contractor. All completed projects will be subject to inspection and will be selected for inspection based on the Program's sampling plan.

The type of inspection and sample size may be adjusted based on the Arkansas Public Service Commission's Evaluation, Measurement and Verification (EM&V) protocol.

### *Sampling Plan*

In order to obtain a representative sample of each participating contractor's work, 5% to 10% of total submitted projects by each participating contractor will be inspected. A greater emphasis will be made on contractors new to the program and those with non-conformance issues. A tiered approach to deal with those new and non-conforming contractors has been developed and described below:

- **Tier 1** In-field mentoring and inspection on the first three projects by a new contractor or new field crew.
- **Tier 2** 10% of projects will be inspected for new contractors for the first 25 projects
- **Tier 3** After first 25 projects have been submitted, 5% of contractor projects will be inspected.

The Program Manager will reduce the inspection rate after on-site inspections show that the contractor is making satisfactory progress to meeting program standards. Corrective Actions will move contractors back to the previous tier until conditions are satisfied and given program approval.

To support the program's pre-inspection and live ride-along QA inspection efforts to take place, the contractor will upon request provide to the Program a schedule of all jobs for at minimum the following two weeks from the request. It is expected that with at least 24 hours' notice from the Program, the contractor will supply the requested schedule(s).

Projects will be selected via a random project generator in order to obtain a representative sample of each contractors work. As projects are submitted, a sample generation list will be updated monthly by Program staff and inspections will be scheduled. Projects may be chosen to have QAQC post inspections before they are paid up to 20% may be held until chosen projects QAQC has be completed.

### *Data Collection and Verification*

Quality indicators will be monitored during the QAQC process to identify any discrepancies that will adversely impact the final energy savings and cost-effectiveness reported by the Program. The data obtained during inspection is dependent on measures installed. All projects will be subject to these quality indicators:

- Verification of Project Completion Form data
  - Variance of 5% allotted for square footage and 10% for test-out data
  - All other data requires 100% match

Any indicator submitted by the contractor that falls outside of the acceptable variance when compared to the QAQC data will result in a non-conformance. Additional data collected during inspection includes:

- Photographs of equipment plates
- Photographs of measures installed
- Confirmation of test-out data
- Customer Satisfaction Survey

The Program Inspector will use the information gathered in the on-site inspection and documentation review to generate a final report. The final report will include:

- Field Inspection Comparison Matrix – the data collected during field verification by the QAQC process compared to the submitted contractor data.
- Field Inspection Report – results of field inspection

#### *Measure Standards*

Best Practices Standards are located in Section 4.6

#### **Step 3: Customer Feedback**

Receiving direct feedback from customers is an essential part the QAQC process. Customer feedback can help determine customer satisfaction, program compliance, and identify high and low performing contractors. Customer surveys will be included in all on-site project inspections. Customer surveys will be sent to all other projects by a postcard or online questionnaire. Customers will also be able to provide feedback through the toll-free Residential Program hotline. Negative feedback may result in corrective action.

#### **Step 4: Addressing Non-conformances and Failures**

A non-conformance occurs whenever the acceptable variance for a Quality Indicator is not met or the installation does not measure up to the state and local building standards. The following qualify as non-conformance:

- Installed measures that do not meet industry best practices and standards
- Incorrect rebate amounts based on inspection findings
- Customer or measure eligibility issues
- Negative customer feedback

#### *Non-critical Issues*

Things that do not adversely impact the kW and kWh savings and rebate calculations, but that are not accurately recorded and reported, such as equipment model numbers, will be recorded in an Issue Log. If a contractor has repetitive non-critical issues reported on Issue Log, it will be deemed as a systemic issue and will be addressed with a Corrective Action Form.

#### **6.2.4 Corrective Action**

The corrective action process will be initiated by the Program Administrator when a repetitive non-conformance or inspection failure is discovered. Corrective action is a formal process that ensures problems are investigated, root causes are identified, corrective actions are implemented, and results are tracked and documented. The goal of the corrective action process is to identify the root cause of a nonconformance or failure, correct the issue, and minimize the probability of it being repeated in the future.

Following are the corrective action activities the program will implement when a non-conformance or failure is discovered. See Appendix B for the Corrective Action Work Flow.

1. Program staff will identify non-conformance.
2. Based on the severity of the nonconformance, the issue will be communicated to the contractor and logged on an internal Issue Log.
3. For repeat issues or “gross” non-conformances, a Corrective Action will be developed for the contractor. The Corrective Action will identify the issue(s) as well as potential cause(s).
4. Depending on the severity of the non-conformance, the Program Administrator may immediately remove the contractor from the Program or place the contractor on temporary suspension for length of time to be communicated at the time of suspension.
5. The contractor will identify cause(s) of the issue(s) and develop a Corrective Action Plan to communicate the planned changes that will take place in order to return to compliance with program requirements.
6. Once the Corrective Action Plan is complete, the Program Administrator will sign acceptance. The plan may include increased on-site inspections or other measures that may be put in place to ensure compliance.
7. If the contractor does not achieve compliance with program requirements, the contractor will be formally removed from the program for up to one year and will need to reapply in order to participate in the future. Any remaining allotment will be forfeited.

### **6.2.5 Escalation Plan**

In order to provide assurance that participating contractors enrolled in the Program are providing a quality service to SWEPCO's customers, an escalation process has been developed to manage any concerns that arise. The process is in place in order to promote transparency and equality among all participants.

The escalation process is intended to resolve repeat or “gross” non-conformances identified during the project documentation review and onsite inspections. The process also documents actions taken to correct the non-conformance. Contractors who have three Corrective Actions taken within the course of a year, defined by the calendar year, will be placed under suspension until the completion of the escalation process and a final status decision has been made.

### **6.2.6 Communication Plan**

Ongoing communication is very important to the success of SWEPCO's Residential Program's QAQC process. Communication is used to:

- Increase understanding of the Residential Program's QAQC goals and objectives;
- Obtain suggestions on improving the design of the QAQC process;
- Gain commitment to the success of the QAQC process; and,
- Provide feedback on how to improve the Residential Program.

Table 10: QAQC Communication Plan

Stakeholder	What Information Do They Need?	Frequency	Medium
SWEPCO	Number of homes verified by Energy Advisor Results of data analysis and comparisons Non-conformance and failures Corrective actions taken	Monthly	Project Sampling Tracking Form Plan Analysis Summary Field Inspection Summary Issue Log / Corrective Action Log Corrective Action Forms
	Customer feedback	Quarterly	Customer Survey Response Summary
CLEAResult	Monthly completed projects list Quality indicators Escalation process Inspection results Customer feedback	Monthly	Project Sampling Tracking Form Field Inspection Report Field Inspection Summary Corrective Action Forms Customer Survey Response Summary
Network Contractors	QAQC goals and objectives Quality indicators	Annually	Program Manual
	Escalation process		
	Notification of non-conformance and failures	Per Project Basis	Issue Log Corrective Action Forms
	Contractor Monthly Allotment	Prior to each Month	Breakdown by Email
	Incentive Run Details	Twice Monthly	Emailed Incentive Run Report
Contractor SCORE	Bi-Monthly	Bi-Monthly Summary Report & Quarterly Check-in Meeting	

Stakeholder	What Information Do They Need?	Frequency	Medium
	Progression of program, contractor's performance and informational updates	Quarterly	Quarterly Report Meeting

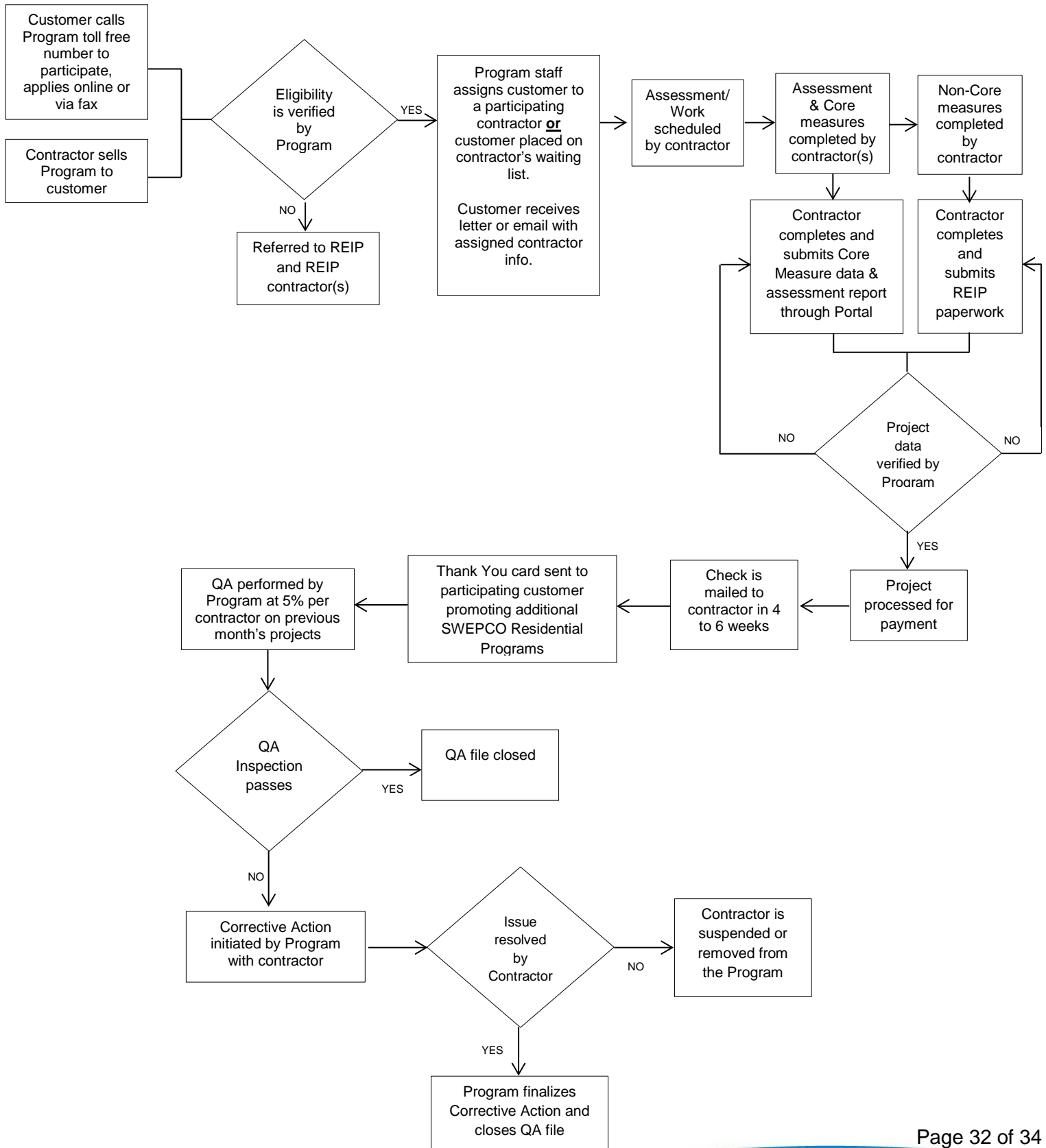
### 6.3 Contractor SCORE Process

All contractor efforts will be continually scored throughout the year. This process will provide the contractor will a current and running evaluation of their performance in the following areas:

- Overall Customer satisfaction
- Quality of work – QA/QC results
- Quality of paperwork/data
- Savings achieved overall and per house basis
- Quality of communication
- Level of Joint Utility participation
- Corrective actions

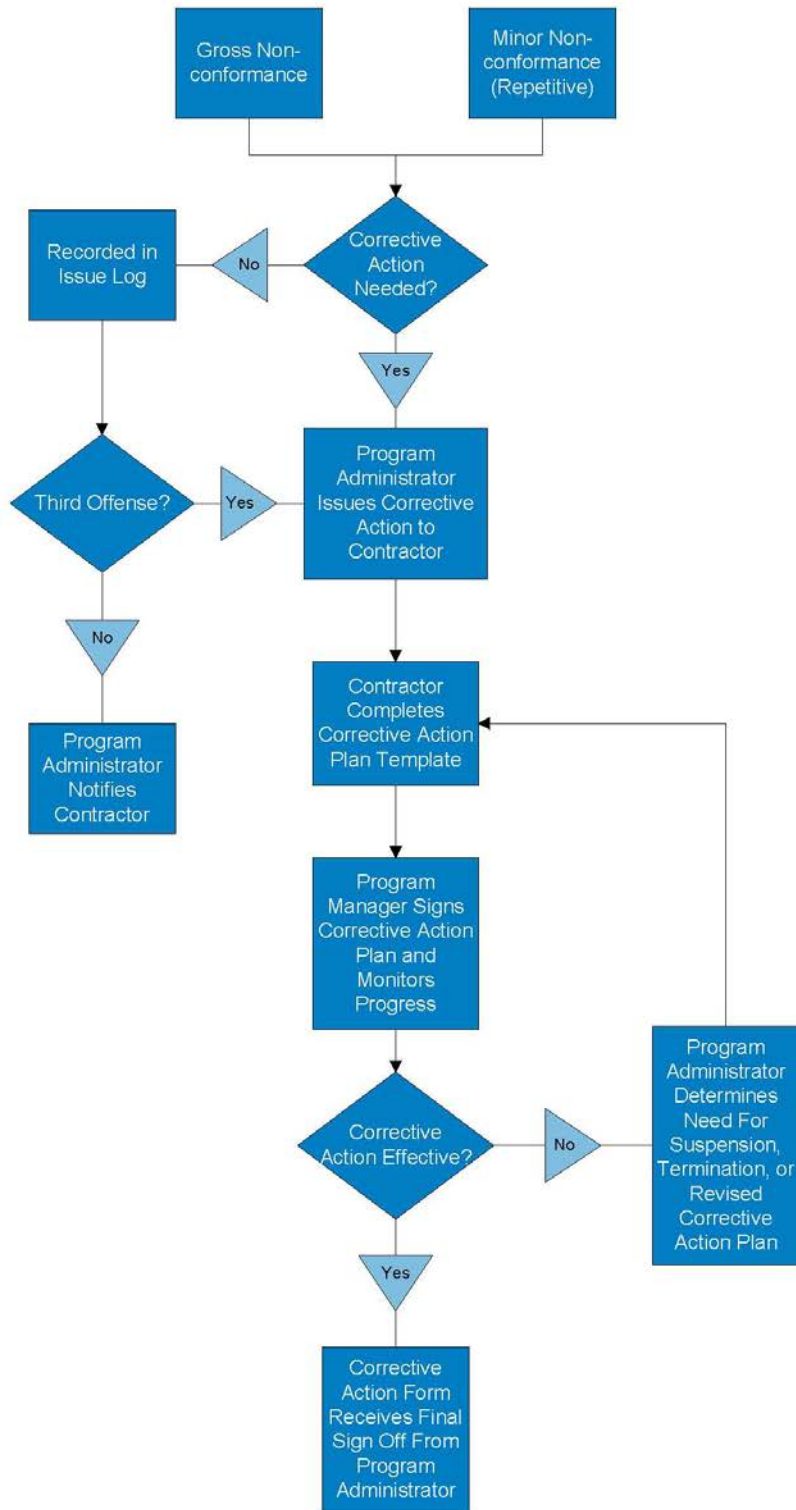
Contractors will receive direct feedback from the Program regarding their SCORE throughout the year on a quarterly basis.. Contractor scores will be factored in any allotment adjustments as well as subsequent RFQ processes.

## Appendix A: Home Performance with ENERGY STAR Participation Process





## Appendix B: Corrective Action Process Flowchart





## Appendix C: BPI 1200 and 1100 Standards