2025 Residential Energy Improvement Pathway Manual

January 2025

SOUTHWESTERN ELECTRIC POWER COMPANY℠

An AEP Company

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Section 1: Introduction

This manual outlines the policies and procedures for Southwestern Electric Power Company's (SWEPCO) Residential Energy Improvement Pathway (REIP). Its intention is to guide "implementation and participation" activities, making certain all parties understand the pathway 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 pathway implementer.

1.1 Pathway Overview

SWEPCO's Residential Energy Improvement Pathway offers incentives for the quality installation of eligible products and services that improve the energy efficiency and comfort in the homes of SWEPCO's residential customers. These incentives are designed to reduce the initial costs associated with energy-efficient home improvements. The pathway also enrolls qualified contractors to provide customers with access to a network of experienced contractors to perform installations and energy-efficient services. The REIP pathway is available for all SWEPCO Arkansas Residential customers, either owner or renter.

1.2 Pathway Goals

The table below outlines the pathway's goals and objectives for 2025. Annual energy and demand savings are based on a list of eligible measures installed through the pathway. Actual energy and demand savings will be calculated using deemed savings calculations as approved by the Arkansas Public Service Commission.

Table 1: Pathway Goals

Pathway Year	kWh Savings	kW Savings	Incentive Budget
2025	7,286,882	1,472	$1,218,795

1.3 Contact Information

SWEPCO Residential Energy Improvement Pathway
C/O CLEAResult
P.O. Box 9567
Fayetteville, AR 72703

1-888-266-3130
479-234-4972 (Fax)
info@SWEPCOsavings.com
SWEPCO.com/ARsaves

Table 2: Pathway Contacts

Name	Company	Role/ Responsibility	Telephone	E-mail Address
Kent Tomlinson	SWEPCO	Residential Programs Coordinator	479-973-2442	kbtomlinson@aep.com
Jacob Nielson	CLEAResult	Senior Program Manager	479-439-8627	jacob.nielson@clearesult.com
Elisha Patterson	CLEAResult	Assoc. Program Manager	479-282-0600	elisha.patterson@clearesult.com

Section 2: Residential Energy Improvement Pathway

2.1 Customer Eligibility

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

- Incentives are available to any residentially metered dwelling served by SWEPCO.
- Tenant-occupied dwellings are eligible to receive an incentive, provided the property owner grants permission.
- Manufactured and mobile homes are eligible for incentives, provided all mobility devices have been removed, and the belly board and insulation are in good working order.

Multifamily properties with three units or more under one roof are eligible to participate through the Multifamily Pathway as described in Section 3.

2.2 Measures Eligibility and Incentives

Customers will be eligible for an incentive under REIP if the equipment installed meets the eligibility requirements specified below. **All measures must be installed by a participating contractor**. Contractors must be pre-approved by the pathway for each measure type that they intend to perform. Deemed Savings calculations determine the energy and demand savings for products installed and services performed within the pathway.

For qualifying installations, incentives are paid to customers. The customer may elect to assign their incentives to the installing contractor by indicating so on the project completion form. To qualify for incentives, each measure must meet the minimum requirements outlined in Tables 3.

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Table 3: Incentive Rates by Measure

Measure	Existing Condition	Minimum Requirement	Customer Incentives	
Duct Sealing	≤40% Total fan flow & >80 CFM25	>10% Reduction	Single Family: $1.25/CFM Reduction Multifamily: $1.75/CFM Reduction	
Air Infiltration	≤1.25 Air changes/hr & >building airtightness limit	≥10% Reduction at CFM50	Single Family: $0.12/CFM Reduction Multifamily: $0.20/CFM Reduction	
CoolSaver HVAC Tune- Up	Central Air Conditioner, Heat Pump or Package unit (Excludes Geothermal)	CoolSaver Authorized Contractor, system > 1 year old	1.5–2.5 Ton $175 3.0–5.0 Ton $250	
Heat Pump Water Heaters	Electric Water Heater	ENERGY STAR® Certified	$1,150	
ENERGY STAR Smart Thermostats	Manual or Programmable Thermostat	ENERGY STAR® Certified	$75	
Heat Pump Installation*	≤13 SEER ≤ 7.7 HSPF Heat Pump	15.2 SEER2 / 7.25 HSPF2 / 3.6 COP Heat Pump, Mini-Split or Geothermal System	**SEER2**	**$/Ton**
			15.2 - 17.09	$250
			17.1 - 19.94	$400
			≥19.95	$500
Electric Resistance to Heat Pump Conversion**	≤13 SEER	15.2 SEER2 / 7.25 HSPF2 / 3.6 COP Heat Pump, Mini-Split or Geothermal System	$600/Ton	

*Cannot incentivize fuel switching
**Full System Replacement

Additional Incentives: Duct insulation, attic knee wall insulation, wall insulation, ceiling insulation, windows, and A/C installation incentives may be available on a case-by-case basis. Incentive amounts will also be determined on a case-by-case basis.

The following limitations apply to the payment of incentives:

- Incentives may not be combined to pay for a duplicate measure
- Incentives are paid on a first come, first served basis
- Multiple incentives can be paid to a homeowner for more than one installation of the same "type" of measure. For example, a home may have two heat pumps.
- A Project Completion Form must be submitted within ninety (90) days of the date when incentives were reserved, or the improvement installed.
- Before an incentive is paid for any work performed on a project, REIP staff will provide a complete review of all projects and submitted documentation. See Section 5 of this pathway manual for an overview of the Quality Assurance Plan.

2.2.1 Additional Measure Requirements

Qualifications for incentives are listed in Table 3. Additional qualifications and measures are listed below.

Duct Sealing

- Leakage to the Outside Testing protocol using a Duct Blaster.
- Existing condition must be ≥50 at CFM_{25}
- Must achieve ≥25% reduction at CFM_{25}
- Existing condition must be ≤40% total fan flow
    - If over 40% on initial testing, 40% must be achieved before savings or incentives may be calculated
        - Example: A 2.5-ton system is tested to have 450 CFM of leakage. This system must be sealed down to at least 25% leakage reduction or 300 CFM, to achieve incentives

          $2.5_{tons} * 400_{CFM} = 1000_{CFM}$ (total fan flow),
          $1000_{CFM} * 40\% = 400_{CFM}$ (max leakage),
          $400_{CFM} - (400_{CFM} * 25\%) = 300_{CFM}$ (Minimum leakage reduction)
- Refer to the Home Weatherization Manual for best practices

Air Infiltration

- Must be installed by a participating contractor that is a certified Building Performance Institute (BPI) Building Analyst
- Existing leakage condition can be no more than the Pre-Retrofit Cap (CFM/ft^2). See Table 4 below. Homes with higher levels require pathway verification.
- Must achieve a ≥20% CFM_{50} minimum reduction on for single-family homes, and ≥ 10% CFM_{50} minimum reduction for multifamily homes
- Post blower door rate must comply with the prevailing Arkansas mechanical code, which determines that the minimum ventilation rate (MVR)
- Refer to the Home Weatherization Manual for best practices.

Min CFM_{50} = Home Square Footage X N

Table 4: Pre-Retrofit Infiltration Cap (CFM/ft^2)

	Number of Stories		
Shielding Type	1 Story	2 Story	3+ Story
Well-Shielded	11	8.8	7.7
Normal Shielding	9.1	7.3	6.4
Exposed Shielding	8.2	6.6	5.7

Table 5: Air Infiltration MVR

	MVR Multiplier (x sq. ft)		
Shielding Type	1 Story	2 Story	3+ Story
Well-Shielded	1.28	1.02	0.90
Normal Shielding	1.07	0.85	0.75
Exposed Shielding	0.96	0.77	0.67

Ceiling Insulation

- Existing insulation levels cannot exceed R-22
- The R-values of the existing insulation and the added insulation must total a minimum value of R-38
- BPI's "Effective R-values for Batt Insulation" chart will be used to estimate R-value for any existing batt insulation installed in attic spaces. See Appendix B.

Advanced Power Strips

- No existing Advanced Power Strip at entertainment center or home office
- Manufacturer's installation instructions must be followed
- Multiple devices must be connected to the device
- Home's occupant shall be educated to the use and intent of the device and manufacturer's instructions left with occupant.

ENERGY STAR Smart Thermostat

- Can be installed by customer or contractor
- Must be connected to existing Wi-Fi
- Must have central AC

Home Walk-Through Assessment

- A walk-through assessment may be performed by a SWEPCO Home Weatherization contractor on homes that are not eligible for participation in the SWEPCO HWP Program.
- A fully completed pathway Walk-Though Assessment form with customer signature is required
- Customer receives copy of Walk-Through Assessment
- Customer must receive all applicable Direct Install (DI) measures installed by the contractor as a part of the Assessment process.
- Direct install items must be purchased through CLEAResult secured channels or where otherwise approved by pathway
- DI items may not be left with customer to self-install, contractor is required to install
- Contractor must remove all existing replaced equipment (bulbs, showerheads, etc.) and discard all replaced items off site

Electric Heat Pump Replacement

- Can be package units, split systems, and mini-split systems.

2.3 Participation Process

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

Contractors must complete the Contractor Application and Agreement and submit it along with the supporting documentation via e-mail, fax or mail to the pathway contact information shown in Table 7 of Section 2.4 of this pathway manual.

Upon receipt of the Contractor Application and Agreement, it will be reviewed by a Pathway Energy Advisor. Once the Energy Advisor approves the contractor application, the contractor will receive a welcome letter, a copy of the executed agreement, access to the online portal and any forms that will need to be signed in the completion of their work, and a current copy of this Pathway Manual.

Step 1: Reserve Incentive

To ensure funding will be available for a proposed project, customers and/or contractors are encouraged to reserve incentives prior to work being performed. All incentives must be made using a SWEPCO provided Incentive Reservation Form (available for download on SWEPCO.com/ARsaves). If a customer has not selected a contractor, they may elect to have the pathway request up to three contractors contact them to receive a quotation for services. A total incentive of up to $2,500 may be reserved; however, the final incentive amount may exceed the reservation if funds are available.

Upon receipt of a completed Incentive Reservation Form, a confirmation letter will be e-mailed to the customer. If an e-mail address has not been provided, then a confirmation letter will be mailed. The letter will include the amount of the incentive reserved, the expiration date, a list of eligible measures, the Terms and Conditions, and the Residential Incentive Rate Table. All final incentives are calculated using the Residential Incentive Rate Tables found in this pathway manual and on SWEPCO.com/ARsaves. If a project is not completed within the prescribed number of days of the incentive reservation date, either: 1) a subsequent reservation will need to be submitted; or, 2) if the project installation is underway, notification must be made to the pathway to confirm incentive funds will remain available until project completion.

Reserving an incentive is not required for REIP, however, incentives are provided on a first-come, first-serve basis. A customer or their contractor may reserve an incentive for a 90-day period via phone, fax, e-mail, or mail.

Step 2: Select a Participating Contractor

All projects must be completed by a participating SWEPCO Network Contractor. For information on becoming a participating contractor, please see Section 4 of this pathway manual. Customers may elect to have up to three participating contractors contact them during

the Incentive Reservation Process. The selection of a participating contractor to perform the work is the sole decision of the customer. An approved contractor list is available on SWEPCO.com/ARsaves or by calling 1-888-266-3130. SWEPCO does not endorse any one company, product, or service with the participation of this pathway, and an Energy Advisor will select three contractors based on the installation measures requested by the homeowner.

Step 3: Install Measures

Upon selecting a contractor, the customer schedules directly with the contractor for the services to be performed. All measures installed, or services performed must meet the eligibility requirements in Section 2 of this pathway 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. To receive an incentive using REIP, the customer must have at least **one** of the measures installed that are listed in Table 3.

Step 4: Submit Project Completion Form

Upon completion of the project, the contractor submits information via the online portal or completes a Project Completion Form. The Project Completion Form consists of three sections:

- Section One: Project, Homeowner, General Home and Contractor information. **This section must be completed for every project.**
- Section Two: Measure and service specific information. Information for installed measures or services performed must be completed. The customer and contractor must both sign this section to receive an incentive. The customer may elect to transfer their incentive to the contractor by checking and initialing the appropriate section.
- Terms and Conditions. This is a customer copy that should be given to the customer for their records.

All required project paperwork must be submitted to SWEPCO within 60 days of invoice date by the installing contractor for review and verification that the upgrade or service performed meets pathway standards.

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

Table 6: Required Supplemental Documentation

Measure / Service	Required Documents
Heat Pump and A/C Replacement	1. Copy of Load Calculation (Manual J). 2. Contractor staff member with required credentials must sign the Terms and Conditions page. 3. AHRI Certificate
Air Infiltration / Duct Sealing	1. Contractor staff member with required credentials who was onsite for the project must sign the Terms and Conditions page.
Home Walk -Through Assessment	1. Copy of completed and signed Home Walk-Though Assessment Form.

Step 5: Receive Incentive

The customer and/or contractor will receive their incentive check within four to six weeks of the receipt of a complete Project Completion Form and any required documentation. The pathway will contact the contractor if additional documentation is required or if calculations need to be clarified.

Step 6: Schedule Inspection

REIP provides a quality assurance inspection for a minimum of 5% of all completed projects. Customers who participate in the pathway agree to make their homes available to the pathway 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 conducted to verify the work completed meets the pathway requirements.

2.4 Contractor Eligibility

REIP is implemented by participating contractors, who are responsible for properly installing qualifying improvements and providing eligible services to eligible SWEPCO customers. Participating contractors are required to meet the participation requirements, including minimum general liability insurance requirements and state licenses and trainings necessary to perform specific services associated with the pathway. Approval by Program team will be required prior to any work beginning. To become a participating contractor, the following items must be completed and submitted:

- A Contractor Network Application and Agreement

- An IRS W-9 Form
- A Certificate of Insurance, including Worker's Comp coverage and verification of 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 7: Required Contractor Credentials

Pathway	Measure/Service	Required Certifications and Trainings
REIP	Insulation or Windows	• Arkansas Home Improvement License (Companies with projects costs exceeding $2000 on a project)
	Heat Pump and A/C Replacement	• Arkansas HVAC License
	Hybrid Water Heater	• Arkansas Plumbing License
	HVAC Tune-Up	• Arkansas HVAC License • CoolSaver Training
	Duct Sealing	• BPI Building Analyst
	Air Infiltration	• BPI Building Analyst

Certification is not required for participating contractors installing eligible measures not included in the table above.

2.5 Receive Incentive

The customer and contractor will receive their incentive checks within four to six weeks of the completed Project Completion Form submittal. The pathway may contact the contractor if there is missing documentation or to verify the incentive calculation. The customer and contractor have 60 days from receiving the check to notify CLEAResult of any underpayments. After that, the project will be considered paid in full.

2.6 Inspections

The pathway has a formal Quality Assurance and Quality Control (QAQC) process outlined in Section 5 of this pathway manual. All participating contractors are subject to this process. The pathway will conduct quality pre- and post-inspections on a minimum of 5% of projects. Contractors may elect to be notified if one of their projects has been selected to receive an inspection and contractors are encouraged to attend the inspection.

If a contractor has repeated project inspection failures, they may be subject to removal from the pathway. For additional information about the QAQC process, please review Section 5 of this pathway manual.

Section 3: Residential Energy Improvement Pathway – Multifamily participation

3.1 Customer Eligibility

SWEPCO Arkansas residential customers who meet the following requirements are eligible to participate:

- Incentives are available to any multifamily housing property which contains three or more tenant-occupied units under one roof, is served by SWEPCO, and is residentially metered.
- To be eligible for water-related Direct Install (DI) measures, electric water heaters must serve each individual unit. Buildings served by central electric boilers or electric heaters may be eligible for water measures so long as that equipment is on a residential meter.
- If air sealing, duct sealing, and direct install measures are installed, 80% of all units shall receive this measure for the property to be considered.
- Eligibility of property will be reviewed by REIP Energy Advisors and will include a walkthrough assessment of the property and several units, mechanicals, and attics.

3.2 Contractor Eligibility

Contractors desiring to participate in the REIP Multifamily Package must be a member of the SWEPCO Contractor Network and execute a REIP Multifamily Contractor Addendum. Section 2.5 details contractor participation and requirements for participation in REIP. Approval by Program team will be required prior to any work beginning. Mandatory pathway training and high quality of work and communication is expected by all contractors and their employees.

3.3 Measure Eligibility

Participating customers (property owners) will be eligible for incentives for individual residential units. The property will be eligible for a walk-through assessment, conducted by an Energy Advisor, to identify direct install, duct sealing, air sealing, attic insulation, appliance, and common area upgrade opportunities. If common areas are residentially metered, they may be eligible through the REIP Multifamily Pathway. If commercially metered, they may be eligible through SWEPCO's Small Business Pathway.

The possible no cost measures included in unit upgrades include energy savings shower heads, energy saving faucet aerators (for electric water heating properties), advanced power strips and LEDs. Optional no cost measures may also include air sealing and duct sealing. To be eligible for the no cost measures and a $15 per door incentive, the participating property will agree to install at least three qualified measures per unit. If they have participated in a previous year and are receiving additional measures, they are not eligible for another $15 per unit.

All Direct Install products will be purchased through CLEAResult approved vendors using CLEAResult secured pricing. An approved item list will be provided to participating contractors. Measures can and may be defined specifically for each property at the discretion of the pathway and/or property. The contractor may submit alternative products for approval by the Pathway prior to installation.

Other measures are also available with incentives to help the adoption of higher efficiency upgrades such as High efficiency HVAC upgrades, ENERGY STAR windows and Attic Insulation. Measures require approval by a REIP Energy Advisor prior to installation by the Contractor. The measures and their requirements are found in Table 3.

The participating contractor provides all labor and materials for all in-unit direct install measures. The Pathway may assist with ordering and/or pre-arranged material packages. To qualify for an incentive, each measure must meet the following qualifications:

Faucet Aerator

- 1.5 gpm installed at kitchen faucets
- 1.0 gpm installed in all bathroom faucets

- Installation should not be made if special adapters or other devices are installed, such as water filters, reverse osmosis systems, washing machine or other special adapters. If installation of aerator would prevent the use of such devices, it should not be installed.

Low-flow shower head

- Tenant purchased and installed showerheads should not be removed without tenant approval.
- Contractor will keep on hand, at minimum, 12 handheld showerheads to replace any existing handheld showerheads found.
- Manufacturer's installation instructions will be followed fully regarding proper install and tightening of showerhead; if leaking persists Teflon tape will be used.

LEDs

- Will only be installed in permanently affixed fixtures, including exterior lights
- Should only be installed in high use areas

Advanced Power Strips (APS)

- Existing entertainment center or home office cannot have an APS
- Manufacturer's installation instructions must be followed. Incorrect installation may result in contractor's payment for installation being reduced.
- Pathway-defined security screws will be used to secure APS to the wall AC outlet

Air Infiltration

- Must be installed by a participating contractor that is a Building Performance Institute (BPI) Building Analyst
- Existing leakage condition can be no more than the Pre-Retrofit Cap(CFM/ft^2) Table 8. Homes with higher levels require pathway verification.
- Must achieve a ≥20% CFM_{50} minimum reduction on single-family homes, and ≥ 10% CFM_{50} minimum reduction on for multifamily homes
- Post blower door rate must comply with the prevailing Arkansas mechanical code, which determines that the minimum ventilation rate (MVR)

$$Min\ CFM_{50} = home\ square\ footage\ x\ N$$

N = N factor (Table 9)

Table 8: Air Infiltration Pre-Retrofit Cap (CFM/ft^2)

Number of Stories			
Shielding Type	1 Story	2 Story	3+ Story
Well-Shielded	11	8.8	7.7
Normal Shielding	9.1	7.3	6.4
Exposed Shielding	8.2	6.6	5.7

Table 9: Air Infiltration MVR

MVR Multiplier (x sq. ft)			
Shielding Type	1 Story	2 Story	3 Story
Well-Shielded	1.28	1.02	0.90
Normal Shielding	1.07	0.85	0.75
Exposed Shielding	0.96	0.77	0.67

Duct Sealing

- Testing done by "Duct Blaster" using leakage to the outside methodology
- Existing condition must be ≥80 CFM_{25}
- Existing condition must be ≤40% total fan flow
    - If over 40%, 40% must be achieved before savings or incentives are calculated
        - Example: a 2.5-ton system is tested to have 450 CFM of leakage, this system must be sealed down to 25% leakage reduction 300 CFM, or more, to achieve an incentive.

          $2.5_{tons} * 400_{CFM} = 1000_{CFM}$ (total fan flow),
          $1000_{CFM} * 40\% = 400_{CFM}$ (max leakage),
          $400_{CFM} - (400_{CFM} * 25\%) = 300_{CFM}$ (Minimum leakage reduction)

3.4 Incentive Reservations

Incentives will be allocated and reserved based on the following:

- Quantity as determined by property owner and REIP Energy Advisor
- Reservation expires December 15 each calendar year

3.5 Customer Participation Process

The participation process described below has been developed for SWEPCO customers interested in improving the energy efficiency of their multifamily housing units, using the REIP Multifamily Pathway. See Appendix A for an illustration of the Participation Process.

Step 1: Property owner/manager is presented pathway information by a REIP Energy Advisor and eligibility is determined.

Step 2: Property owner/manager completes and submits the Multifamily Incentive Enrollment Form, Participation Agreement, and W-9.

Step 3: A Walk-thru Assessment is scheduled and conducted by a REIP Energy Advisor. If duct sealing, air sealing, and/or attic insulation are being considered, the Energy Advisor will test one or more units to establish a baseline and assess the need.

The walk-thru assessment will establish tentative project savings, project materials and completion time frame, and opportunities for additional pathway incentives. This data will be passed on to the contractor installing the measures.

Step 4: Upon completion of the assessment, the REIP Energy Advisor will determine the appropriate amount of funds to reserve for the project.

Step 5: The customer will submit a competed Participation Agreement and W-9 form to the pathway.

Step 6: For direct install (no-charge) measures a contractor is assigned to the customer but the customer has the option to choose another. All other measures, such as HVAC, the customer selects one from the list of participating contractors.

Step 7: Customer provides notice to tenants.

Step 8: Contractor completes installation of direct install measures and, if applicable, duct and air sealing.

Upon completion of each unit project, a Tenant Fact Sheet, as supplied by the Pathway, that explains the benefits of the upgrades will be left in each unit by the installing contractor.

Step 9: Contractor completes and submits the following:

- Multifamily Installation Form
    - One form for multiple unit installations on a single property, including all measures completed
    - Proof of purchase of direct install material (invoice etc...)
    - Multifamily Property Project Summary

The customer and contractor will receive their incentive checks within four to six weeks of the receipt of the completed forms. The pathway will contact the contractor if additional documentation or data is required.

3.6 Contractor Participation Process

Step 1: Submit Multifamily Contractor Addendum

Any contractor participating in the REIP Multifamily Pathway must be an approved member of the SWEPCO Contractor Network and submit a Multifamily Contractor Addendum. The contractor will be provided training on the first three units to establish best practices for measure installation.

Step 2: Install Measures

The contractor selected by the customer or Pathway schedules installation dates and installs measures. The Pathway QAQC Specialist will conduct quality assurance inspections during the installation of measures.

Step 3: Submit Forms

Upon completion of the project, the contractor will submit the following to Pathway:

- Multifamily Installation Form
- Proof of purchase of materials
  Note: Larger projects extending more than 1 week will require weekly submittals of completed project by the Monday following the previous work week.
- A Project Summary that includes:
  - An executive summary of the project and the work completed (include pictures)
  - An outline (spreadsheet is preferable) of measures installed in each apartment. This should include quantities for direct installs, kWh savings, water savings, as well as test in/test out numbers for duct and air sealing
  - Details and part numbers for direct installs, so that property can replace with similar models if needed
  - An explanation of how the advanced power strips work
  - Explanation of what was done during air and duct sealing to achieve results (include pictures)
  - Recommendations for future energy efficiency upgrades, specifically through appliance upgrades and ceiling insulation
  - Any health or safety concerns you had while working on the property (include pictures)

3.7 Marketing

Marketing for the REIP Multifamily Pathway will be conducted using the following tactics:

- The multifamily property owner/manager is presented pathway information by REIP Energy Advisors through an on-site meeting or electronically that may include:
  - Introduction letter
  - Multifamily Pathway Flyer
  - Multifamily Incentive Enrollment Form
  - Multifamily Installation Form
  - Multifamily Tenant Fact Sheet
  - Participating contractors list
  - Advanced Power Strip Fact Sheet
  - Other Pathway's info as applicable
- Pathway information will be listed on the SWEPCO.com/ARsaves website regarding the participation process and contact information.

3.8 Fulfillment Process

Multifamily incentives will be processed by pathway staff on an ongoing basis. Multifamily incentives require specific documentation from the property manager/owner and contractor.

Section 4: Marketing

SWEPCO is committed to increasing customer awareness and demand for energy efficiency pathways and services to help them reduce energy use and save money. The Pathway marketing campaign will promote the value of energy efficiency upgrades, associated cost savings, improved comfort and links between energy usage and the environment. The campaign will also direct customers to the available incentives 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
- Direct mail and E-mail campaigns
- 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 incentives available with the REIP and Home Weatherization pathways 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 SWEPCO.com/ARsaves 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 energy efficiency initiative.

4.1 Customer Education Materials

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

- REIP Measures Brochure
- SWEPCO Residential Brochure
- REIP Incentive Rate Tables
- Advanced Power Strip Flyer

- CoolSaver Brochure
- Electric Resistance to Heat Pump Flyer

4.2 Contractor Marketing Materials

In addition to customer education materials, the Pathway 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 pathway
- Post-installation leave-behind materials designed to keep the homeowner interested in signing a contract for measures promoted under the pathway
- Yard sign templates
- 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 pathway, SWEPCO or EPA/ Department of Energy (DOE)-related names, logos, and/or signage. Any use of SWEPCO, EPA or DOE logos marks or names will need pre-approval by Pathway Staff; coordinate with a Pathway Lead for a Co-Branding agreement.

Section 5: Measurement and Verification and Quality Assurance

5.1 Measurement and Verification

The Residential Energy Improvement Pathway includes Measurement and Verification (M&V) by a pathway QAQC Specialist. The demand and energy savings of each project will be calculated using the Arkansas Deemed Savings, Installation and Efficiency Standards. The Deemed Savings 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 pathway eligibility and installation requirements. Projects will be verified by a combination of project documentation review, on-site inspections, and customer surveys. A third-party evaluator contracted by SWEPCO, and not included in this manual, may also conduct additional M&V.

5.2 Quality Assurance

This section outlines the quality assurance and control process (QAQC) for REIP. Quality assurance protects customers by providing a review of the work performed by participating contractors to ensure that it meets pathway standards. This section is intended to outline the

roles and responsibilities, the workflow, the data collection and analysis, corrective action measures, and the escalation process.

5.2.1 Goals and Objectives

The goals of the QAQC plan are to:

- Confirm network contractors are installing measures according to code and/or industry standards
- Validate the accuracy of information submitted to the pathway
- 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
- Establish continuous feedback loop and facilitate corrective actions and improvements

5.2.2 Roles and Responsibilities

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

Table 10: Roles and Responsibilities

Roles	Organization
Pathway Sponsor	SWEPCO
Pathway Manager	CLEAResult
Service Providers	Approved Network Contractors
Pathway Verification	CLEAResult
Verification Oversight	EM&V Contractor and Statewide Independent Monitor

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

5.2.3 Monitoring and Measuring

Pathway staff will review the completed projects in two stages: 1) at project documentation submittal and 2) with on-site inspection of installed measures. Pathway 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 5.2.5. Any chronic non-conformances could result in suspension or removal from the pathway. A key objective of the QAQC process is to ensure customer satisfaction with the pathway.

Step 1: Project Documentation Review

Conducted on 100% of Projects

Before an incentive is paid for any work performed on a project, Pathway staff will provide a complete review of all submitted documentation for that project. This data is used to calculate final incentive payments to customers and contractor(s) and report energy efficiency savings. The review will ensure that all required information is collected, including signatures, dates, and project specific data. If information is missing, the contractor will be asked to provide the missing information or re-submit via the Online Pathway Portal. The contractor may also be requested to provide picture documentation.

The following items are verified prior to approval and payment:

- Contractor eligibility, insurance, licensing, program agreements, etc.
- Valid SWEPCO account for project
- Eligibility of home (if previously participated, etc.)
- Measures installed and/or services performed meet eligibility requirements
- Verify supplemental documents, e.g. Contractor invoice, load calculations, etc.
- Verify kW and kWh savings and incentive calculations

Step 2: On-site Inspections

Minimum of 5% of projects inspected

Pathway staff will conduct field inspections, which consist of equipment verification and an on-site inspection of on-going and completed projects. Inspections will be conducted on a minimum of 5% of the total monthly completed projects by a contractor. All completed projects will be subject to inspection and will be selected for inspection based on the pathway's sampling plan. The type of inspection and sample size may be adjusted based on the Arkansas Public Service Commission's EM&V Protocol.

Sampling Plan

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

Residential Energy Improvement Pathway

- **Tier 1 First three projects will be inspected**
- **Tier 2** 10% of projects will be inspected for new contractors for the next 25 projects
- **Tier 3** 5% of all subsequent projects will be inspected

The Pathway Manager will reduce the inspection rate after on-site inspections show that the contractor is making satisfactory progress to meeting pathway standards. Corrective Actions will move contractors back to the previous tier until conditions are satisfied and given pathway approval. Contractors submitting more than 30 jobs per month will be subject to additional QA/QC requirements, including:

- Up to 20% of projects will be held for payment and will not be paid until a passing inspection has been conducted.
- Contractor crews will be subject to on-site &/or pre-inspections to confirm best practices are being utilized during installation.

Projects will be selected at random to obtain a representative sample of each contractor's work. As projects are submitted, a sample generation list will be updated monthly by pathway staff and inspections will be scheduled.

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 pathway. 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 test out data
    - Air Sealing 10% variance is acceptable
    - Duct Sealing 10% variance is acceptable
    - 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 may include:

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

All data collected by the Pathway QAQC Specialist will be tracked and stored in an electronic file management system.

Measure Standards

Quality Installation Standards are in Appendix B.

Step 3: Customer Feedback

Receiving direct feedback from customers is an essential part the QAQC process. Customer feedback can help determine customer satisfaction, pathway compliance, and identify high and low performing contractors. Customer surveys will be included in all on-site project inspections. Customers will also be able to provide feedback through the toll-free Residential Pathway telephone number. 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 incentive 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 incentive 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 in the Issue Log, it will be deemed as a systemic issue and will be addressed with a Corrective Action Form.

5.2.4 Corrective Action

The corrective action process will be initiated by the Pathway 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 non-conformance or failure, correct the issue, and minimize the probability of it being repeated in the future.

Following are the corrective action activities the pathway will implement when a non-conformance or failure is discovered. See Appendix C for the Corrective Action Workflow.

1. Pathway staff will identify non-conformance.
2. Based on the severity of the non-conformance, 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 Pathway may immediately remove the contractor or place the contractor on temporary suspension for a length of time to be communicated at the time of suspension.
5. The contractor and Pathway QAQC Specialist will identify the cause(s) of the issue(s) and develop a Corrective Action Plan to communicate the planned changes that will take place to return to compliance with pathway requirements.
6. Once the Corrective Action Plan is complete, the Pathway lead and contractor will sign acceptance. The plan may include increased onsite inspections or other measures that may be put in place to ensure compliance.
7. If the contractor does not achieve compliance with pathway requirements, the contractor will be formally removed from the pathway for one year and will need to reapply to participate in the future.

5.2.5 Escalation Plan

To provide assurance that participating contractors enrolled in the pathway 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 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.

5.2.6 Communication Plan

Ongoing communication is very important to the success of SWEPCO’s REIP QAQC process. Communication is used to:

- Increase understanding of the REIP QAQC goals and objectives
- Obtain suggestions on improving the design of the QAQC process
- Gain commitment to the success of the QAQC process
- Provide feedback on how to improve the REIP

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Table 11: 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	Monthly	Project Sampling Tracking Form Plan Analysis Summary Field Inspection Summary
	Corrective actions taken		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	Pathway Manual
	Escalation process Notification of non-conformance and failures	Per Project Basis	Issue Log Corrective Action Forms

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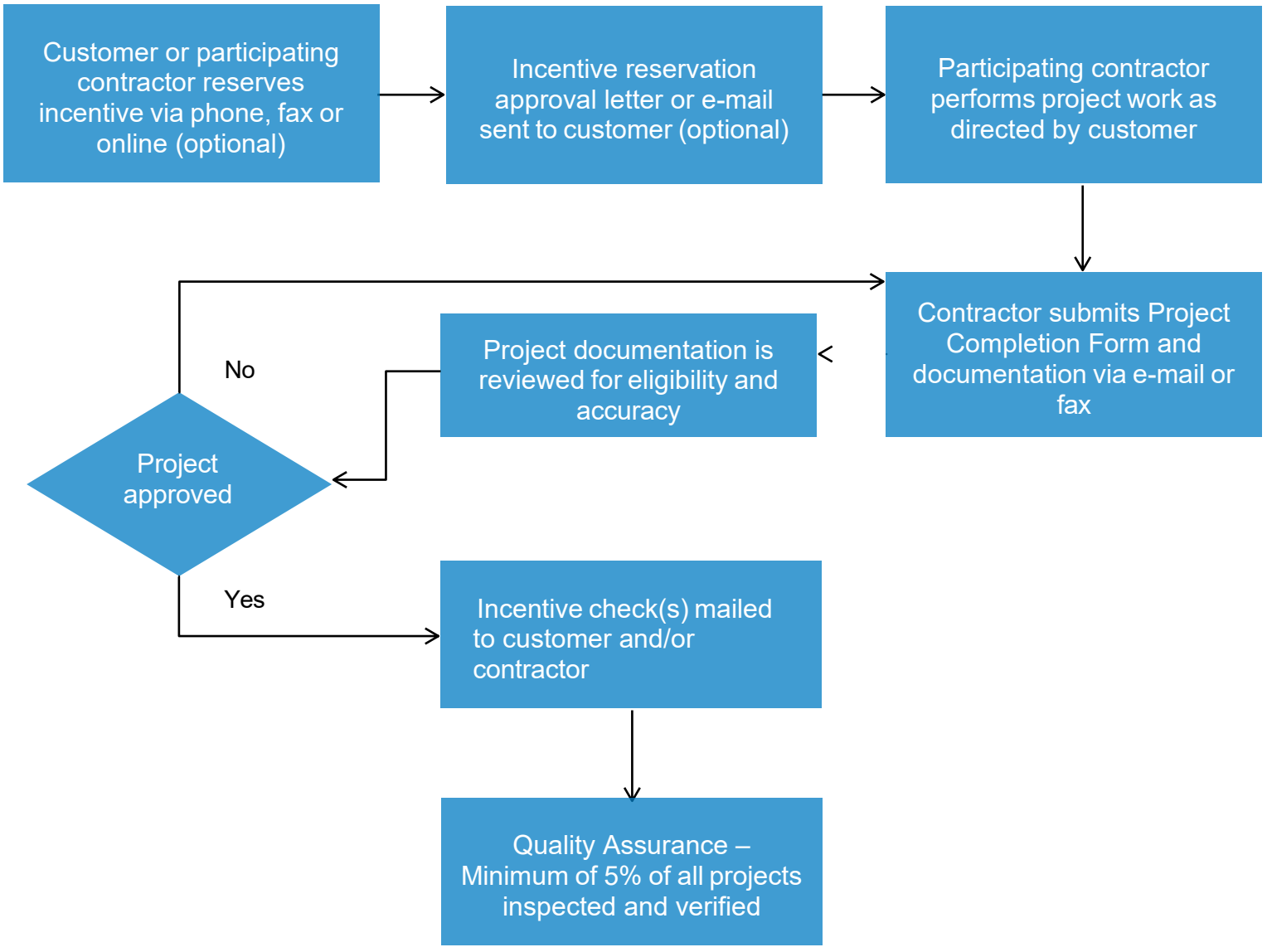
Appendix A: REIP Participation Process



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Appendix B: Quality Installation Requirements

Heat Pumps and Air Conditioners

The quality installation requirements for the heat pump and air conditioner replacement incentives follow Air-Conditioning Contractors of America (ACCA) 2015 Standard 5 – HVAC Quality Installation Specification and include three components:

- Manual J load calculation
- Proper system airflow
- Proper refrigerant charge

Requirements for each of these three components are listed below.

1. Load Calculation

Participating contractors must perform and document an ACCA Manual J 8th edition residential load calculation on the home and submit a copy of the calculation with the Project Completion Form.

The Manual J approach accounts for heat gain and loss through walls, roof, floors, windows, and doors, as well as from internal equipment, occupants, ducts, and infiltration. The following load calculation requirements are listed below.

Requirements

- The total capacity of the eligible equipment installed must not exceed 15% of the Manual J calculated cooling and heating load or be the manufacturers next available nominal size unit. The total capacity is determined from the rated capacity reported from Air-Conditioning, Heating and Refrigeration Institute (AHRI).
- Indoor design temperatures used for the load calculation is required to be 75°F (24°C) for cooling and 70°F (21°C) for heating.
- Outdoor cooling and heating design temperatures used for the load calculation is required to be 99% db and 1% db design temperatures as listed in the Manual J 8th edition manual for the home's location or most representative city for which design temperature data are available.

2. Airflow across Indoor Coil

The contractor must verify the airflow across the indoor coil is within 350 to 425 CFM per ton per the ACCA Standard. Acceptable procedures of testing airflow are listed below. If airflow across the coil is not within 350 to 425 CFM per ton, the system must be evaluated, adjustments must be made, and airflow retested. The contractor must document the airflow data.

Acceptable Procedures

- Pressure matching method (e.g. DuctBlaster)
- Flow grid measurement method
- Anemometer, pitot tube or other methods for measuring total static and velocity pressures
- A manometer to determine the pressure drop across a clean cooling coil or fan coil and compare the values from the OEM CFM/pressure drop coil tables
- Heat Rise Method (not ACCA accredited but recognized by the Department of Energy Building Technologies Pathway)

3. Refrigeration Charge

The contractor must verify the refrigerant charge is in accordance with the ACCA Standard. Refrigerant charge testing should be conducted after confirmation of system airflow testing (mentioned above) meets all requirements. The contractor must document the refrigerant charge data. The acceptable refrigerant charge procedures of testing are listed below.

Acceptable Procedures

- Sub-cooling method requirement - system refrigerant charging per OEM charging data/instructions and within ± 3°F of the OEM recommended optimal refrigerant charge, and testing to be done under outdoor ambient conditions as specified by the OEM instructions (typically 60°F or higher - if ambient conditions require a follow-up visit to finalize the charging process this should be recorded both at the initial visit and the follow-up visit).

- Manufacturer approved method specifically stated by the OEM that will ensure proper refrigerant charging of the system, (i.e. the Weigh-in Method, Lennox Approach, etc.).

Ceiling Insulation

For existing homes with insufficient levels of insulation, increase the insulation R-value to meet the Department of Energy's recommended insulation level of R-38. Ceiling insulation savings and incentive amounts are per square foot of treated ceiling area.

General Standards

- To qualify the R-value of the pre-retrofit insulation cannot be greater than R-22
- The combined R-values of the existing insulation and the insulation being added will total at least R-38, based on the manufacturer's bag count formulas for coverage.
- Homes participating in the Pathway must be existing homes; new construction and homes with extensive remodeling are not eligible.
- Contractor is responsible for communicating to the homeowner the steps necessary for adding attic insulation to their home. When attic area is used for storage, contractors will need to discuss the removal and/or covering of those items that could interfere with the installation of new insulation.

- 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 insulation used, number of bags used, previous insulation R-Value, final R-Value, name of installer, and installer signature.

Installation & Efficiency Standard

- Inspect the attic. Do not proceed if any of these three conditions exist:
  - Active (energized) knob and tube wiring. Work may not proceed until a licensed electrician replaces and de-energizes the knob and tube wiring.
  - Should any exposed wiring connections or electrical issues be discovered, notify the homeowner, and request they hire a licensed electrician to remedy any issues before any insulation work is started.
  - Vermiculite insulation is present; work cannot proceed. Vermiculite insulation may contain asbestos and must be tested for such prior to the attic being insulated and/or air sealed. Advise the customer to contact the State Department of Health at 501-661-2171.
- The current insulation level of each home will be determined and documented by the insulation installer or pathway energy advisor.
  - To determine the existing insulation level, use BPI Technical Standards for Building Analyst I to determine existing R-value based on the type and depth of existing insulation. Degradation due to age, density and gaps in the existing insulation should be considered.
  - Should the attic have areas of varying existing R-value, make notes and take pictures of the different areas as they relate to the attic access so that the inspector can identify them.
- Accurately measure or calculate the application square footage using physical measurements or verifying square footage from county tax assessor's public records. Only areas above conditioned interior spaces are eligible.
- Before installing new insulation, the existing insulation should be leveled, batts that are not in contact with the ceiling should be adjusted to make contact, and large debris (old furnaces, water heaters, construction materials, etc.) should be removed.
- Before blowing insulation over furred down or wall cavities, the cavities must be:
  - Filled fully with insulation or
  - Covered with material that is sealed in place by expanding foam or caulk, is rigid, can support the weight of the insulation, and will perform as an air barrier, such as plywood, foam board, duct board or other. Batts or other material without inherent structural capability should not be used. Regardless of the material chosen, the dam should be installed in a durable manner allowing it to resist movement, bumping, and other incidental contact without losing its effectiveness.
- Dams
  - Areas around "B" vents, non-IC rated can lights, etc. will need:
- Loose-fill (blown) insulation.
  - Material must be installed according to manufacturer's coverage charts to meet the R-38 value needed to comply with pathway standards.

  - Materials must be installed such that insulation is continuous and even throughout the attic space.
- Dams must be installed around the following areas:
  - Attic hatches, pull-down stairs, whole-house fans, water heater and furnace flue plies, not IC rate recessed lights or anywhere the area cover conditioned space meets a transition that would require a dam to ensure the full R-value is installed.
  - Dams should extend 6” above the finished insulation level.
  - Combustion air pipes and bathroom fans vented to the attic should also be extended 6” above the finished insulation
  - Material used for dams around furnace and water heater flue vents should be metal or rock wool batts. Regardless of the material chosen, the dam should be installed in a durable manner allowing it to resist movement, bumping or other incidental contact without losing its effectiveness
  - Where non-IC rated light fixtures are used, a minimum of 3” clearance to combustible materials or 1” clearance to noncombustible materials should exist on all sides of the fixture, and no insulation may be present across the top of the installed fixture nor should any device used to obtain the required clearance have a solid top.
  - Best material for building dams in all the locations include duct board, foam board wood and metal. Regardless of the material chosen, the dam should be installed in a durable manner allowing it to resist movement when bumped or other incidental contact without losing its effectiveness.
  - Dams around attic stairs or attic access holes will be built using dimensional lumber (2x12) or plywood sufficient to support a person climbing in and out of the space.
- Floored areas must be brought to R-38 or subtracted from the qualifying square footage.
  - If a floored area is to be brought up to R-38, the area under the floor must be filled with insulation before the remaining insulation is placed on top of it.
- Depth markers must be used to allow inspection without the need to walk through the newly installed insulation.
  - Markers must be installed at each end of the attic and at least one per each 300 square feet facing towards the attic access or stairs.
  - Ensure that all markers are visible from the attic access point.
- If there is sheet plastic covering insulation, the plastic must be removed before insulation is installed
- If there is any radiant barrier installed over current insulation, it must be fully removed prior to adding any insulation and shall not be reinstalled in direct contact with the new insulation.
- Ventilation requirements:
  - Attics must be properly ventilated to prevent condensation or moisture damage
- Insulation should not cover or otherwise restrict airflow through soffit vents or other sources of lower attic ventilation.
- Use of baffles with a vertical air barrier component is required whenever possible to prevent wind washing.
- At no time will a powered attic ventilation fan be encouraged or sold by the contractor.

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Wall Insulation

Wall insulation savings are per square foot of treated wall area (gross wall area less window and door area) and are based on R-0 increased to R-13.

General Standards

- Only homes with no existing insulation in the wall cavity are eligible to receive an incentive.
- Homes participating in the pathway must be existing homes; new construction homes are not eligible.
- Homes with knob and tube or other dangerous wiring cannot be insulated while that wiring is actively used in the home.
- The contractor is responsible for communicating to the homeowner the steps necessary for adding wall insulation to their existing wall cavities. The contractor will need to discuss the invasive process required for adding wall insulation in a retrofit scenario.

Installation & Efficiency Standard

- Before insulation is installed, complete any necessary sealing of existing holes and penetrations in the wall.
- If installing with drywall removed:
  - Install batt or spray foam insulation according to manufacturer specifications without gaps, voids, or compression.
- If installing without removal of dry wall:
  - Using a fill tube, completely fill each wall cavity to a consistent density meeting manufacturer specification.
  - After installation, all drill holes will be sealed properly with tapered wood plugs or drywall removed.

Table 12: Typical Insulation R-values

Insulation Type	R-value per inch	Typical Application
Cellulose, loose fill	3.7	Attic Floor
Cellulose, high density	3.2	Walls, Enclosed Cavities, Framing Transitions
Fiberglass, batts	3.0	Basement Ceiling, Open Stud Walls, Attic Floor
Fiberglass, loose fill	2.8	Attic Floor, Walls (existing)
Fiberglass, loose fill, fluffed, below manufacturer's standards	Uncertain	Do not install, or correct by blowing over with higher density
Rockwool	3.0	Attic Floor, Walls, Basement Ceiling (may be loose or batts)
Vermiculite	2.7	Attic Floor
Polyisocyanurate, rigid board	7.0	Foundation Walls, Attic Access Doors
Polystyrene, expanded rigid board	4.0	Foundation Walls, Sill Plate
Polystyrene, extruded rigid board	5.0	Foundation Walls, Sub-Slab, Sill Plate
Low Density Urethane, sprayed foam	3.7	Attics, Walls (new construction); Sill Plate, Band Joist, Framing Transitions
Urethane, sprayed foam	6.0	Attics, Walls (new construction); Sill Plate, Band Joist, Framing Transitions
Urea Formaldehyde Foam	4.0	Attics, Walls (existing)

Appendix C: Corrective Action Process Flowchart