Kansas Weatherization Assistance Program



Subrecipient Procedure Manual

For Managing the Low-Income Weatherization Assistance Program

Version 2026.3 Effective July 1, 2026

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1 GRANT GUIDANCE

1.1 OVERVIEW

1.1.1 Mission Statement

To reduce energy costs for low-income families, particularly for the elderly, people with disabilities, and children, by improving the energy efficiency of their homes while ensuring their health and safety.

1.1.2 Introduction

The Kansas Weatherization Procedures Manual provides guidelines or standards to subrecipients regarding the management and proper delivery of weatherization services for residential buildings. The purpose of the manual is to ensure that all applicable Federal, State, and local rules and regulations are followed while delivering a high quality and uniform service at a reasonable cost. The success of this program depends upon agencies having a full understanding of the State's Weatherization Procedures Manual.

The objective of this document is two-fold. First, it serves to outline the management and operation for agencies administering the Program. It is anticipated that these standards will help ensure that weatherization program funds are used in the most cost-effective manner possible. Second, this procedures manual serves to define the appropriate application of weatherization measures for each residence served and sets the guides for the expectation of quality throughout the program.

The Weatherization Assistance Program (WAP) has changed substantially, both technically and administratively since its inception in 1975. The weatherization process continues to evolve in response to changes in funding, weatherization technology, program rules, and administrative personnel. The Kansas Weatherization Procedures Manual will be used to implement and document these changes as they occur.

This document is intended to represent the best thinking at the time of writing. It is also intended to be a dynamic document, changing as necessary to reflect changes throughout the program.

All management decisions, testing procedures, inspections, and safety checks performed by agency personnel and representatives will be done with the intent to follow the tone and spirit of these standards.

From time to time, these standards may be amended and/or revised to reflect changes in State or Federal regulations, advances in technology, and/or innovative approaches to weatherization. These standards are organized to easily accommodate changes. In this sense, they will never be complete. In preparing this edition, some topics were almost certainly overlooked. The standards will become more complete and comprehensive with use as omissions are identified and new topics are addressed with new policy or guidance.

1.1.3 Scope

The Weatherization Procedures Manual shall apply to all subrecipients and their representatives providing Weatherization Assistance Program services.

The Weatherization Procedures Manual provides guidelines for the management and implementation of the Weatherization Assistance Program.

These standards are not intended to conflict or supersede Federal, State, or local laws, rules, and regulations. These standards are intended to be utilized in conjunction with 10 CFR Part 440, OMB Title 2, Subtitle A, Chapter II, Part 200; Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and 2 CFR 910.

These standards also provide guidelines for the installation of energy conservation measures, allowable incidental repairs, and Health and Safety repairs. These standards do not intend to abridge safety, health, environmental, or local codes or other ordinances. Such requirements, if more stringent than these, shall apply.

All questions concerning the content or implementation of the standards should be directed to KHRC.

1.1.4 Policy Advisory Council (PAC)

The purpose of the Policy Advisory Council (PAC) is to serve in an advisory capacity to the Kansas Housing Resources Corporation in the administration and development of the Weatherization Assistance Program. PAC members assist the program by bringing special qualifications, professional and personal networking, and sensitivity with respect to solving the problems of low-income persons across the State. Membership can include organizations, agencies, programs, and individuals that broadly represent low-income persons within our target populations. (10 CFR 440.17)

1.1.5 Effective Date

All weatherization activities performed or completed on or after the specified implementation date of this Manual shall comply with these standards.

The effective date is July 1st, 2026

1.1.6 Amendments to the Weatherization Procedures Manual

From time to time, these standards may be amended and/or revised by KHRC to reflect changes in State or Federal regulations, advances in technology, and/or innovative approaches to weatherization. KHRC encourages agencies to submit suggested changes to these Standards that will result in the delivery of services in a more cost-effective manner while continuing to provide high quality work.

Amendments to these standards will not become effective until thirty (30) calendar days from the date of KHRC's approval and agency notification, except under the following conditions where amendments or revisions will become effective immediately:

Changes in State or Federal law or regulations mandate immediate implementation; or

The KHRC determines that an emergency situation exists, such as a potential threat to life, limb, or personal property, and the proposed amendment and/or revision is necessary for the protection of the health and welfare of clients and workers.

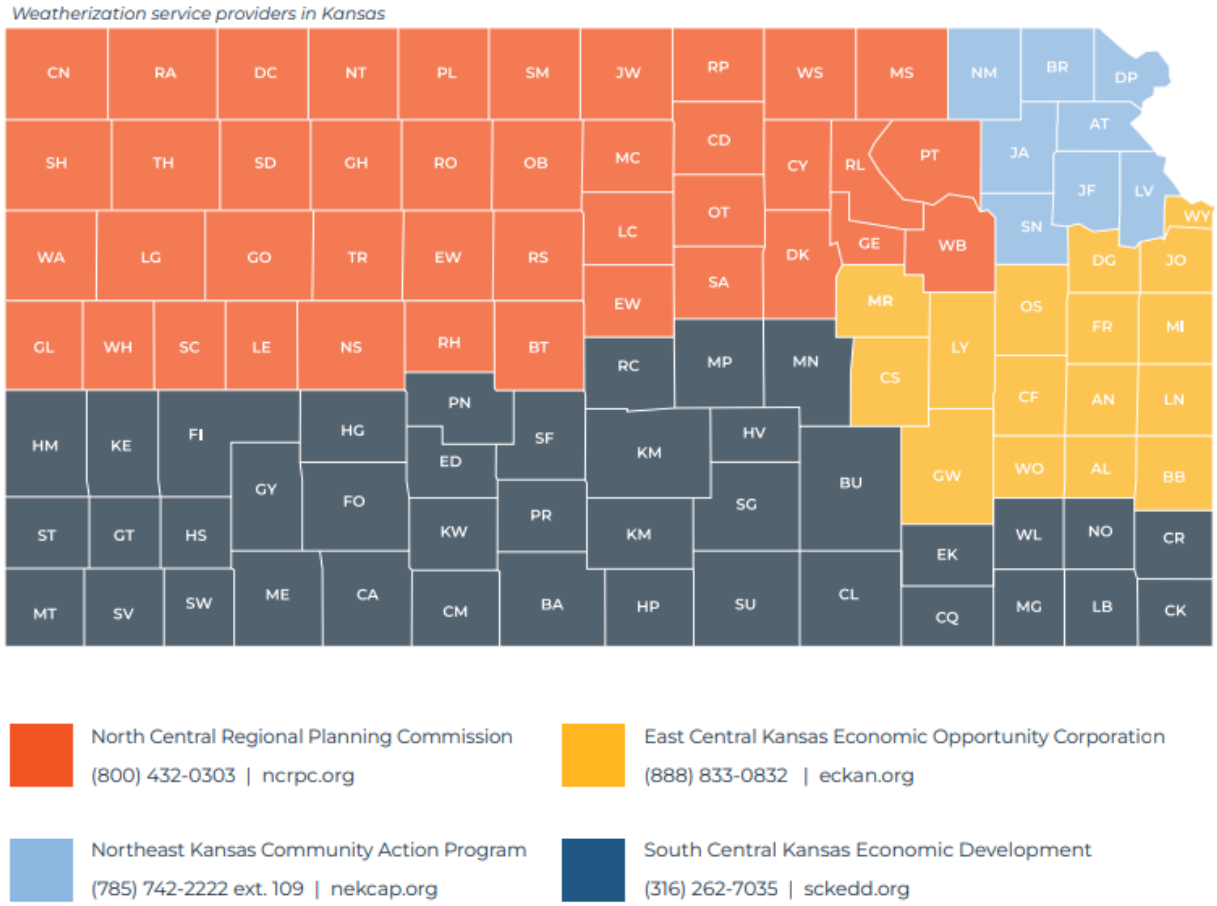
Agency personnel may submit comments and suggest changes or revisions to these standards to KHRC at any time. Suggested changes to the standards must be accompanied by supporting documentation.

1.2 Program Management and Administration

1.2.1 Grant Agreements

1.2.1.1 Soliciting Providers for Weatherization Program Services (10 CFR 440.15)

Primary service delivery is provided by community-based, nonprofit, and local government agencies. See www.kshousingcorp.org for Map of Service Areas. Kansas Housing Resources Corporation (KHRC) defines the above entities as local agencies or subrecipients.



Any new or additional subrecipient is selected based on public comment received during a public hearing conducted pursuant to 10 CFR 440.14(a) and other appropriate findings regarding:

- the subrecipient's experience and performance in weatherization or housing renovation activities,
- the subrecipient's experience in assisting low-income persons in the area to be served; and
- the subrecipient's capacity to undertake a timely and effective weatherization program.

KHRC gives preference to any Community Action Agency (CAA) or other public or nonprofit entity which has, or is currently administering, an effective program under this part or under title II of the Economic Opportunity Act of 1964, with program effectiveness evaluated by consideration of factors including, but not necessarily limited to, the following:

- The extent to which the past or current program achieved or is achieving weatherization goals in a timely fashion
- The quality of work performed by the subrecipient
- The number of staff members of the subrecipient, their experience, their qualifications, and required certifications
- The ability of the subrecipient to secure volunteers, training participants, public service employment workers, and other Federal or State training programs
- Demonstrated fiscal accountability

KHRC may terminate financial assistance under a contract or subrecipient agreement for a grant period after providing the subrecipient notice of the reasons for termination as outlined in the section on High Risk and allowing the subrecipient to be heard.

If, in a particular geographic area, a program or subrecipient has been terminated, or failed to meet KHRC's requirements in the previous program year, a successor agency operating in substantially the same manner will be considered.

Should a subrecipient decline an award or fail to acknowledge acceptance of an award, KWAP shall release the funds obligated for the award. KWAP shall provide the subrecipient with written notice of the intent to release funds. "Release of Funds" is defined as de-obligating the funds from the encumbrance system in KHRC. After a subrecipient has been notified and the grant is still not accepted, procedures to select a new subrecipient for that area may be implemented.

The entire geographical area of Kansas shall be served by the Weatherization Assistance Program.

All Grantee and Subrecipient agreements and vendor contracts will contain the following language which clearly communicates the expectation for quality work and the requirement to be in compliance with the Kansas SWS Field Guide: "The Weatherization Assistance Program is dedicated to a high quality of work. To ensure this quality, all work performed by subrecipients, contractors, and subcontractors must meet the desired outcomes, specifications, and objectives found in the Kansas SWS Field Guide. This Agreement constitutes confirmation of receipt and understanding of the expectations of the Kansas SWS Field Guide." A signed contract that includes confirmation of receipt and understanding shall be sufficient and binding.

1.2.1.2 Grant Award Governance

All subrecipient agencies receiving a grant award for providing weatherization services are bound by the grant award documents, payments, and financial reporting requirements. Specific procedures must be followed to initiate grant activities, receive payments or reimbursements for expenditures, and to report financial and program activities.

The issuance of all grant awards for the weatherization program shall be governed by:

- Authorizing Statute 42 USCS § 6861
- Applicable program regulations, including DOE 10 CFR 440 - Weatherization Assistance for Low Income Persons/Final Rule
- OMB Circular 2 CFR Part 200 as amended by 2 CFR part 910 at http://www.eCFR.gov. Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; Final Rule

- KHRC contracts with local agencies prior to the start of the fund source program year. Upon the subrecipients signing the grant, the terms and conditions of the grant become the agreement between the subrecipient and KHRC, which sets forth the manner that the subrecipient shall operate the program
- National Policy Assurances in effect on date of award at http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms

1.2.1.3 Program Year

Fund source program years are as follows:

DOE – July 1st through June 30th.

LIEAP - April 1st through March 31st.

KS – July 1st through June 30th.

Other awards- as established via award documents.

1.2.1.4 Allocations

Initial allocation of funds for the DOE and LIEAP grants to local agencies will be based on the base formula developed with data from the American Community Survey 5-year Estimates. These values will be updated as the 5-year estimate data becomes available. Other contributions/ award allocations will be based on the agreed upon procedures from the contracting or awarding source documents.

KHRC retains the right to allow for re-allocation of funds to subrecipients and across budget categories that meets the needs of targeted Kansas citizens. Active management and re-allocation of the grant allows the grant to be fully expended during the budget period.

1.2.1.5 Budget

The budget, budget worksheet, and production schedule shall be used as the financial plan to operate the weatherization program. Grant expenditures shall be in accordance with the approved budget and detailed budget worksheet. Please also see Allowable cost/ Budget Categories in this document.

Grant funds should be expended during the fund source program year. KHRC shall be notified by the agency in writing a minimum of 90 days before the grant closes if funds will not be fully expended. The inability to expend funds could affect future grant awards. KHRC may deem it necessary to recoup and redistribute a portion of the grant balance. The remaining balance of the grant may be forwarded to the next program year on a case-by-case basis.

1.2.1.6 Grant Award Changes and Amendments

KHRC or the subrecipient may initiate amendments during the contract period to change expenditures or production by mutual agreement. EXCEPTION: If the total changes do not exceed five percent (5%) of the total grant award, prior approval is not required. However, KHRC is still to be notified of budget revisions under 5%.

Administrative expenditures may not exceed the admin budget. Administrative costs which exceed the approved administrative budget shall be considered unauthorized costs and recouped. Admin funds may be transferred to Program Operations.

Program Operations is broken down into the following categories. Local agencies may transfer funds between these categories up to 5% of the total award.

- Material
- Labor
- Program Support

Health and Safety (H&S) expenditures are managed by percentage caps for each award. Approved budgeted values should act as the cap. Budget revisions are required if significant changes are necessary, otherwise KHRC should be notified if the approved H&S budget is to be exceeded. H&S funds may be transferred to Program Operations.

Training and Technical Assistance (T&TA) expenditures may not exceed the T&TA budget. T&TA funds may be transferred to Program Operations after contacting KHRC. All T&TA needs across the state will be met before converting to program operations.

Liability Insurance and Audit funds may be transferred to Program Operations.

Budget changes must be submitted no later than 30 days prior to the termination of the grant award.

The subrecipient shall obtain prior approval for any changes exceeding 5% of the total grant award to the approved budget, budget worksheet, or production schedule of the approved project.

The subrecipient must complete the minimum total number of homes required on or before the end date of the project period. All costs incurred for weatherizing units that do not have final inspections prior to the project ending date shall be completed and charged to the next program year when they are reported as complete. If subrecipients cannot complete the minimum production in accordance with the current agreement, written communication shall be sent to KHRC stating the reason(s) why production cannot be met, a revised production schedule, and a revised budget if necessary. Failure to comply may result in the withholding of cash payments until the subrecipient is following the approved production schedule.

When additional funds are available after a contract is made between KHRC and the subrecipient, KHRC, with mutual agreement of the agency, may increase the contract amount through a standard amendment.

A standard amendment requires revision to the original budget, budget narrative, production schedule and authorized signatures from KHRC and the subrecipient.

No amendments may be made after the closure of the contract period.

1.2.2 Participation in Additional Evaluations/ Studies

KWAP and subrecipients are encouraged to participate in studies related to the Weatherization Program. While national-level studies allow us to see macro elements, by participating in well-designed State level or regional level studies, more clarity can be attained on the impact specific protocols have on energy savings and other benefits garnered through WAP. Before participating in evaluations or studies, subrecipients shall first notify KHRC of their intent and allow ample time for KHRC to review and provide guidance on the proposal. Information about who is conducting the study, for what purpose, the time commitments, and where the results will be shared will need to be defined. Subrecipients

must ensure that the privacy of the client is protected. See section Maintaining the Privacy of Recipients of Services, and WPN 10-08.

1.2.3 Bonding Requirements

The bonding requirements of a recipient will be accepted if the awarding Subrecipients interest is adequately protected. If not, there are specific requirements described in Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards 2 CFR 200.325. KHRC requires the following:

1.2.3.1 Fidelity Bonds

Fidelity bond coverage is required for appropriate subrecipient officials. Coverage must be secured in a minimum amount of $25,000 for each person authorized to sign or countersign checks or to transport, maintain custody of, or disburse amounts of cash over $100. Blanket bonds which provide for the maximum are allowed. Persons who handle only petty cash need not be bonded. The KWAP must be notified by the subrecipient within thirty days of any changes in bonding coverage.

1.2.4 Conflicts of Interest

Subrecipient staff shall always conduct themselves in an ethical manner, avoiding both actual conflicts of interest and the appearance of conflict(s) of interest. No subrecipient employee, officer, or agent shall participate in the selection, award, or administration of a contract supported by federal funds if a real or apparent conflict of interest would be involved. Such a conflict would arise when the employee, officer, agent, relative (defined as an employee's spouse, child, grandchild, parent, grandparent, brother, or sister (including step/half-brother and step/half-sister), their spouses, and the parent, brother, sister or child of an employee's spouse or domestic partner) or an organization which employs, or is about to employ any of the parties indicated herein, has a financial or other interest in the firm selected for an award/contract. The officers, employees, and agents of KWAP shall neither solicit nor accept gratuities, favors, or anything of monetary value from subcontractors or parties to sub-agreements.

Subrecipient staff that act in a decision-making capacity with respect to KWAP funds, or are in a position to influence a decision, should avoid any known or perceived conflicts. Actual or perceived conflict(s) of interests are possible when subrecipient employees, board of directors or any relatives of either, have an interest in a business (or organization) providing services, materials, or are associated with a property anticipated to receive weatherization services. Eligible clients who are employees, board members, or relatives of either are not automatically barred from KWAP services, nor are properties owned or operated by the subrecipient, subrecipient employee, or board member. However, the following steps must be taken:

- The subrecipient must contact KHRC in writing (email is acceptable) immediately upon receiving the application. Any special approaches or steps taken to safeguard, prevent, or minimize conflict of interest should be declared.
- All applicable program rules and guidance must be adhered to.
- After the initial audit, the subrecipient must submit the house inspection form, the WAweb Recommended Measures, and the proposed work scope to KHRC for review and approval. Any subsequent change orders must also be submitted for review.

- Documentation of the situation and the approval will be filed in the client file.

In addition to the circumstances above, subrecipients should document any other actual or perceived conflict of interest in the client file and any precautionary steps taken. If appropriate, the above steps for a KHRC review could also be taken.

Auditors and inspectors (agency or contracted) shall not audit or inspect any properties occupied, owned, rented, or managed by themselves or their relatives for weatherization purposes.

Subrecipient staff acting either as individuals or on behalf of an outside contracting firm may not solicit nor provide contractor services to low-income households who have received or been deemed eligible for KWAP services. Low-income households seeking work from private contractors should be advised to consult with other sources. Subrecipient staff that offer other energy or building repair services for a fee to the public may not also perform these same services for the subrecipient.

Any subrecipient staff member who originally established a relationship with the household as a representative of the WAP must not transition that relationship to one where they subsequently become a private contractor for the household.

1.3 Financial Management and Administration

1.3.1 Grant Award Payments

1.3.1.1 Payment Request

Subrecipients will be funded in a timely manner to facilitate the purchase of approved materials and the recruiting or maintenance of qualified labor to weatherize homes. All subrecipient payment requests must be submitted with a requested amount, a written justification for the amount, the date, and signed by the authorized staff of the subrecipient.

1.3.1.2 Method of Payment

KHRC shall use the advance / reimbursement methods of payment for costs incurred in providing weatherization services. A cash request for funds must be limited to the immediate cash needs of the recipient. An electronic transfer payment will be utilized unless the subrecipient requests otherwise. The WAP Program Manager, Fiscal Monitor, or the Division Director can alter the requested amount, but such must include written justification, initialed, and dated.

1.3.1.3 Advance Payments

After all required signatures are obtained on grant documents, and upon receipt of a request from the authorized staff of the subrecipient, advance payments may be remitted to the subrecipient. The basis for determining the amount follows:

- The cash requested by the subrecipient less the cash carryover on hand.
- The date of the first monthly production is to be scheduled.

The cash advance is predicated on the first two or three months of production shown on subrecipients' monthly production schedule. In general, a maximum advance of twenty-five percent (25%) of the grant

award may be made to a subrecipient. A larger advance may be approved with adequate justification regarding production requirements.

1.3.1.4 Reimbursements

Reimbursements may be made for actual expenditures in accordance with the subrecipient production schedule except when a recipient indicates anticipated major expenditures for the following month on the monthly financial report. All anticipated major expenditures must be justified in the General Expenditure Report Comments box of the monthly report or in a separate cover letter with the monthly report. Criteria for determining reimbursements include, but are not limited to, the following considerations:

- agency expenses
- cash balance at agency and at State level
- homes in progress
- inventory balance
- agency request negotiation with KHRC
- combination of some or all the above

1.3.1.5 Delays in Payment

Subrecipients shall be notified by KHRC program staff if payments will be delayed or if they will be different from the amounts requested. These payments (exceptions) must include written justification, signed, and dated by the WAP Manager, Fiscal Monitor, or the Division Director. A delay in issuing payment could result from:

- Inaccurate reports
- Untimely reports
- Unsigned reports
- Information submitted on the wrong report form.
- Federal funds are not available for drawdown or delay in receiving quarterly allocations. Payment is contingent on the date Federal funds are received and available to KHRC. If Federal funds are delayed, subrecipients shall be notified by KHRC.

1.3.2 Leveraged Non-Federal funds

Funds from non-Federal sources which are used in weatherizing eligible homes are considered leveraged funds and should be reported as expended on individual projects and subsequent monthly reports to the State. Leveraged funds may include landlord or owner donations, volunteer labor, utility partner programs, or contributions by other non-Federal sources. Non-Federal funds may be governed by separate grant agreements. See the section on Financial Management and Administration if applicable.

Community Development Block Grant, HOME grants, and direct HUD rehabilitation funds are not leveraged funds, as they derive from Federal sources. Insurance payments for covered damage are not leveraged funds but are considered program income.

1.3.3 Program Income

Pursuant to OMB 2 CFR 200.80, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards program income is defined as gross income earned by the non-Federal

entity that is generated directly by a supported activity or earned as a result of the award including, but not limited to, income from fees for services performed, the use or rental of real or personal property acquired under Federally funded projects, and the sale of commodities or items fabricated under an award. Property owner (i.e., landlord) contributions and leveraged resources (i.e. utility or State funds), sale of real property, equipment or supplies are NOT considered to be "program income" for the purposes of the Weatherization Assistance Program.

Program income shall be:

- Retained by the subrecipient.
- Added to funds committed to the grant.
- Used to further eligible program activities.

Program income shall be reported to the appropriate grant as it is earned and as it is expended on monthly cash reconciliation reports. As per 2 CFR 200.305.5 Subrecipients shall disburse program income, rebates, refunds, contract settlements, audit recoveries, and interest earned on such funds before requesting additional cash payments. Any unexpended program income shall be considered grant carryover at the end of the program year.

1.3.4 Interest Income

Consistent with OMB 2 CFR 200.305,8-9, Uniform Administrative Requirements, Cost Principles, and Audit requirements for Federal Awards, grant recipients shall maintain advances of Federal funds in interest bearing accounts unless:

- The recipient receives less than $120,000 in Federal awards per year.
- The best reasonably available interest bearing account would not be expected to earn interest in excess of $500 per year on Federal cash balances.
- The depository would require an average or minimum balance so high that it would not be feasible within the expected Federal and non-Federal cash resources.
- A foreign government or banking system prohibits or precludes interest bearing accounts

Interest earned in amounts up to $500 per year may be retained by the non-Federal entity for administrative expenses. Amounts in excess of $500 per year of interest earned on Federal advances deposited in interest bearing accounts shall be remitted annually to Department of Health and Human Services, Payment Management Systems as per the instructions in 2 CFR 200.305.

1.3.5 Average Cost Per Unit

The average cost per unit expenditure for labor, weatherization materials, and related matters (program support) for DOE shall not exceed the annually adjusted value set forth by DOE. This adjusted value can be found annually in the Weatherization Program Notice (WPN) ('Program Year'-1).

Average cost per unit is calculated by taking the sum of the budget categories; labor, material and program support divided by production. Please refer to the section on Allowable Costs/ Budget Categories for a detailed explanation of what cost are allowed in each budget category.

Budget Categories not included in the average cost per unit calculation include:

- Administration

- Health and Safety
- Liability Insurance (some exceptions apply, see the Liability Insurance Budget Categories sections)
- Financial Audits
- Training and Technical Assistance (T&TA)

The average cost per unit for the LIEAP grant shall follow the DOE adjusted value.

1.3.6 Audits

All weatherization subrecipients which expend in excess of $750,000 from combined Federal sources on an annual basis are required to undergo an independent audit annually by a licensed, Certified Public Accountant (CPA). This requirement may be fulfilled by ensuring that the weatherization grants are included in the agency-wide audit.

Program funds will be audited annually in accordance with the following:

- Generally accepted accounting principles.
- 2 CFR 200 Subpart F, Audit Requirements.
- DOE 2 CFR 200 and 2 CFR 910
- All State and Federal laws and regulations governing the programs in which local agencies participate.

Costs of audits can be incorporated into annual contracts, charged to the subrecipient's "Audit" budget category. The audit must comply with 2 CFR 200 Subpart F for the cost to be charged to KWAP.

The audit report shall contain:

- Statement that the audit was made in accordance with 2 CFR 200
- A report on financial conditions and schedules for Federal assistance which show the total expenditures for each Federal assistance program as identified in the Catalog of Federal Domestic Assistance. (CFDA) [NOTE: The CFDA for DOE is 81.042 and for LIEAP is 93.568.]
- Identification of the organization's significant internal accounting controls
- Identification of those controls designed to provide reasonable assurance that Federal programs are managed in compliance with applicable laws and regulations
- Identification of the internal controls that were evaluated, the controls that were not evaluated and the material weaknesses identified as a result of the evaluation.
- A Statement of positive assurance with respect to those items tested for compliance, including compliance with law and regulations pertaining to financial reports and claims for advance and reimbursement
- Negative assurance on those items not tested
- Summary of all instances of non-compliance
- Identification of total amounts questioned, if any, for each Federal assistance award as a result of non-compliance.
- Fraud, abuse, illegal acts, indications of such acts, including all questioned costs found as the result of these acts of which auditors become aware, should be covered in a separate written report. The subrecipient shall provide comments on the findings and recommendations in the report, which shall include a plan for corrective action taken or planned and comments on the

status of corrective action on prior findings. NOTE: If corrective action is not necessary, a statement describing the reason it is not should accompany the audit report.

The audit report shall be ordinarily made available within thirty (30) days after the completion of the audit. All audit reports shall be retained on file by the subrecipient for three years from their issuance. KWAP staff will review all audits for grant compliance.

The subrecipient must submit the audit to the Federal Audit Clearinghouse (FAC).

Program and fiscal staff of KWAP will review and resolve any audit findings noted in subrecipients' annual independent audit in accordance with the timelines established by that office. DOE will review the audit when its staff monitors the State program.

When program or fiscal findings are identified, staff will initiate a demand for a corrective action plan within 30 days and staff will monitor the corrective action in future on-site visits. When fiscal findings require recoupment (e.g., ineligible home), KWAP will initiate a demand for recoupment within 30 days and will track it through resolution. If a fiscal finding leads to a questioned cost which requires specialized audit review, KWAP will contract an audit review within seven days and will follow the issue to resolution.

In cases of continued inability or unwillingness to provide an appropriate audit, KWAP shall consider the following sanctions:

- Identification of total amounts questioned, if any, for each Federal assistance award as a result of non-compliance
- Withholding an appropriate amount of Federal assistance payments in accordance with prior year actual audit cost until the audit is completed satisfactorily
- Withholding or disallowing overhead costs.
- Suspending current grant award in operation until the audit is made

1.4 Allowable Costs/ Budget Categories

The Kansas Weatherization Assistance Program subrecipient agencies shall expend and report DOE and LIEAP funds for the following allowable cost categories:

1.4.1 Administration

The State of Kansas shall follow the maximum administrative limit for each award. DOE allows 15% and allows for flexibility for up to an additional 5% admin for those subrecipients receiving grants less than $350,000. LIEAP allows 10%. Not more than half of the maximum administrative limit may be used by KHRC for admin, and not less than half will be made available to Subrecipients. A direct split is common. To ensure compliance of the maximum Federal mandate, KHRC has written policies and procedures which require that KWAP costs are monitored and maintained against the approved agency budget. All costs are reviewed and approved by the program director prior to authorization to expend funds. Subrecipient administrative costs are controlled by the approved budget and budget worksheet narrative, which is a part of the signed grant agreement. All administrative costs which are determined unallowable, as a result of a resolved agency or CPA audit, shall be recouped by KHRC or reimbursed to the weatherization program.

Subrecipients funded at less than $350,000 of DOE funds may request and receive up to an additional 5% for administration with written justification, with state approval based on the individual need and justification. The total effect of the additional 5% may result in the State exceeding the 15% administration cap for the award. The Weatherization Assistance Program legislation and regulations do not define the administrative cost categories. Any expenditure, allowable by Office of Management and Budget (OMB) cost principles, by a subrecipient in carrying out this program may be charged as administrative costs. However, certain costs in this program, by exclusion from other categories, can only be administrative.

DOE has identified instances where certain administrative functions could be charged to the program operations category because of the nature of the expense as it related to program operations (i.e., client intake, recordkeeping, salary/fringe of Program Managers and coordinators, telephone costs, etc.). Subrecipients are encouraged to utilize this flexibility where it is appropriate.

Subrecipient administration is unique to each organization. The organization shall define its administrative costs consistent with the generally accepted accounting practices and procedures within the organization.

1.4.1.1 Indirect Cost

Indirect costs are costs incurred for a common purpose, benefiting more than one program, and not readily allocable among individual programs based on their proportionate shares of benefits derived. A Federally approved indirect rate agreement is required if reimbursement of indirect benefits is requested.

Indirect costs can be included in subrecipient administration and will be considered an allowable cost provided there is a Federally approved indirect rate (s) or cost allocation plan. The rate/amount allowable does not invalidate the program budget category limits.

1.4.1.2 Direct Costs

Salaries and Wages: Payments of a fixed compensation for agency administrative, financial, and accounting personnel, and any other employees performing administrative duties of the agency regardless of title. (See the salaries and wages section under Program Support for exceptions.)

Space, Utility, and Telephone: Payments made in accordance with approved budget and details narratives for positions are listed in direct salaries and wages.

Travel: Payments for mileage, per diem, and subsistence for positions listed in direct salaries and wages. All travel and subsistence payments shall be made in accordance with the guidelines in 2 CFR 200 as well as the agencies' own policies and procedures that are applied uniformly across the organization.

Copier, Postage and Computer Costs: Payments shall be made in accordance with the appropriate cost allocation plan or approved indirect costs for positions listed above. Computer costs may include, but are not limited to, on-line services, computer supplies and maintenance agreements.

Other Costs: Payments made for other costs of positions in direct salaries and wages which benefit the weatherization program. Other costs are those not included in the material or program support budget line items that are direct program costs.

1.4.1.3 Audit Costs

DOE allows audit costs as a separate, non-administration line. The DOE grant is currently the only grant that allows audit costs to be separated.

1.4.2 Program Operations

Per 10 CFR 440.18, costs incurred for program operations are generally defined as the direct costs necessary to affect the weatherization of an eligible dwelling unit but not included in the material costs. While some of these categories could be charged as allowable administrative or T&TA costs – depending on the nature of the expense – they are almost always part of the ACPU calculation.

Many of these costs cannot be directly related to a specific dwelling unit – like vehicle and equipment maintenance or purchases of tools and equipment. When incurred, these total costs are amortized over the number of dwelling units completed during the contract period. For example, the cost of a blower door ($4,500) could be amortized over the 150 homes completed during a contract period, resulting in a $30 increase in the ACPU for the homes completed in that time frame.

Program operations is broken down into the following categories:

1.4.2.1 Weatherization Materials

All weatherization materials must meet the latest standards for weatherization as published in 10 CFR 440, Appendix A. Additional materials that are approved for use that are not included in Appendix A are LED lamps and fixtures and refrigerators. Materials listed in 10 CFR 440, Appendix A, and identified as cost effective by the accepted program energy audit procedure are allowable material costs. Weatherization agencies must obtain and keep current Safety Data Sheets (SDS) for each inventoried material item purchased. Under Kansas Statute [KSA 79-3606 (OO)] weatherization materials purchased directly by a weatherization subrecipient agency are tax exempt, and State sales taxes may not be included in the purchase price of such materials.

Allowable material costs include:

- Materials listed in Appendix A, LED lamps and fixtures, and refrigerators.
- The cost of incidental repair materials; that is, repair materials needed to protect or aid in the installation of weatherization materials as defined in 10CFR 440. See the section on Incidental Repair Measure.
- The cost of purchase and delivery of materials; the cost of freight to deliver weatherization materials is an allowable materials cost
- The cost of transportation to a storage site and to the site of the weatherization work
- The required fees related to building permits from local governments are allowable under this category.

NOTE: Weatherization is a non-construction program therefore no construction of buildings or acquisition of real estate can be charged to this grant. Improvements to a property that are not in direct relation to carrying out Weatherization-specific tasks may not be considered allowable under this grant (e.g., paving a parking lot of the storage area is not considered allowable however retrofitting a storage facility with appropriate shelving to accommodate supplies would be deemed allowable).

1.4.2.2 Labor

KWAP shall authorize payments for only those items below and as approved in the subrecipients' budget and detailed budget narrative. Labor category expenditures are limited to those defined in 10 CFR 440.19.

Payments to employ labor or engage contractors including:

- Payments to subcontractors when contracts are issued in accordance with all appropriate Federal and State procurement and contracting rules and regulations. Under K.S.A. 79-3603 (p) [as amended by SB 493; Notice 98-02, Effective Date: 07/01/98], subcontract labor is not taxable.
- Salaries and fringe benefits of crew members
- Salaries and fringe benefits of crew leaders

Costs incurred for transporting materials, tools, equipment and work crews to the site of weatherization work are allowable direct labor costs. Load time and travel logs shall be supported by mileage logs and/ or time sheets.

Because T&TA funds are limited, Subrecipient may charge the cost of training to the T&TA category and the employee's time for participation in the event under the labor category.

Note: Labor costs associated with the Weatherization Assistance Program annual DOE and LIEAP awards, are not subject to Davis-Bacon prevailing wage requirements.

Subrecipients must warranty all installed measures and labor for a period of one year. The beginning of the one-year period is defined by each subrecipient based on their installation and inspection procedures.

1.4.2.3 Program Support

KWAP shall authorize payments for only those items listed below and in accordance with the approved budget and detailed narratives submitted by the subrecipient agency. Program support category costs exclude the labor category in an indirect cost rate or cost allocation plan.

Direct cost includes:

- Employment of personnel directly related to the operation of the Program:
    - This category is defined for general consistency purposes such as weatherization coordinators' salary and fringe benefits spent in actual supervision of labor, client intake, recordkeeping, etc.
    - Salaries and fringe benefits of auditors/assessors, quality control inspectors, field supervisors who are not installing materials, and warehouse personnel, such as inventory clerks, who are engaged in handling materials.
- Storage of weatherization materials, tools, equipment, and weatherization vehicles.
    - Space rental. As with vehicles and equipment, neither Grantees nor Subrecipients may pre-pay leases that exceed the end of the grant period.
    - Utility costs at storage only, i.e., heat, lights, and water.
    - Retrofitting storage facility.

Cost incurred for transporting auditors, inspectors, supervisors, and other support staff personnel as required for the program.

Salaries and wages including fringe benefits for program support staff, may be charged for the portion of time related to program support activities, except when the position is included in an indirect cost rate or cost allocation plan which identifies the position as administrative. If the position's duties are less than 100 percent weatherization program support related, time study records or timesheets must be maintained to support the charges.

Auditors, Inspectors, on-site supervisors, and clerical support related to program support activities are generally positions which perform program support functions. If any agency position is classified as an administrative position and is not a part of an indirect cost pool and performs program support activities, the time performing those activities may be charged as a direct cost to program support. Detailed time records shall be maintained and will be reviewed by monitors and auditors of the weatherization program.

Space, Utilities, and Telephone Supplies: Payments shall be made for the costs associated with approved program support positions. Costs are to be allocated in accordance with a cost allocation basis as identified in 2 CFR 200.

Vehicles and Equipment: Maintenance, operation, and insurance of vehicles used to transport weatherization materials or workers. Maintenance of tools and equipment. Please also see Vehicles and Equipment $10,000 or more – Optional Category.

Purchase or annual lease of tools, equipment, and vehicles. NOTE: All vehicle purchases shall receive prior KHRC and/or Federal approval; any equipment $10,000 or more shall also receive prior KHRC and/ or Federal approval. Subrecipients may not prepay leases that exceed the end of the grant period.

The cost of required bonding coverage.

1.4.3 Health and Safety

The cost of materials and labor to abate health and safety hazards before, or because of, installation of weatherization materials or to comply with the Kansas Health and Safety Plan are allowable charges. The health and safety cost category should include materials and labor, not training related to the implementation of health and safety.

Health and Safety expenditures and measures are not required to be cost-justified by the energy audit.

Health and Safety budgets are expressed, and managed, as a percentage of the average cost per unit (ACPU). To calculate this percentage, divide the Health and Safety budget amount by the Program Operations (Material + Labor + Program Support) budget amount. (H&S Percentage = H&S / PO)_ There is not a H&S cap per home but rather it's treated as an average and at year end the H&S percentage expended should not exceed the H&S budget percentages as approved in the annual Health and Safety Plan in the State Plan, or otherwise approved by KHRC through formal budget approval or negotiations. For example, it may be expressed as a 20% H&S budget limit for the year.

See the Health and Safety Requirements section for specific allowable charges.

Health and Safety costs are budgeted as a separate category and, thereby, such costs are excluded from the average per-unit cost calculation. This separate category also allows these costs to be isolated from energy efficiency costs in program evaluations.

1.4.4 Vehicles and Equipment $10,000 or more – Optional Category

In 2001, as an option, DOE created the Vehicles and Equipment budget category to allow Subrecipient amortization of vehicle and equipment costs over multiple years. This can be particularly useful to small Subrecipients that do not have alternative funding sources and are unable to balance their production and average cost per home requirements when absorbing the vehicle or equipment costs over a single year. Alternatively, vehicles and equipment may be expensed as a component of the Program Support budget category.

1.4.5 Liability Insurance

Subrecipients must be covered by liability insurance. Liability insurance refers to the general contractor, or other policies that provide protection in case of personal injury or property damage resulting from the weatherization services. KWAP recommends a minimum of $300,000 for property and $500,000 for personal injury. Subcontractors must provide their own coverage.

Liability insurance can be charged to the liability line item in the budget, which was created to ensure that such costs would not have to be charged to the administrative cost category. This provision was established to cover general agency liability insurance and does not include any vehicle related insurance. See preamble to the Federal Register Notice, 45Fed. Reg. 13028, 13031, Feb. 27, 1980. However, if liability insurance is not separated into its own budget category or is passed on through private contractors through their service delivery requirements it is part of the Average Cost Per Unit (ACPU) calculation.

Most, if not all, regular liability insurance policies do not provide for many health and safety measures such as lead and other pollution occurrence items. KWAP recommends POI as part of or an addendum to general liability insurance. If Subrecipients choose NOT to obtain POI coverage and damage occurs or there is disturbance to any other environmental pollutants, the cost of remediation, clean up, relocation, medical expenses, or any other resulting costs may not be charged to Weatherization and must be covered by another funding source. Documentation of the subcontractor's that subrecipients are electing to provide POI for must be provided annually. These costs are also charged on the liability insurance line item.

Vehicle Liability insurance should go under program support, NOT the LIABILITY INSURANCE category.

1.4.6 Financial Audits

Audit costs are allowable as a separate, non-administration expense in the DOE grant. These costs are included in the administrative cost for other grants. The cost of audits which are made in accordance with the provisions of 2 CFR 200 Subpart F, as applicable, are allowable charges to DOE and other Federal assistance programs. These charges may be considered a direct cost or an allocated indirect cost. Audit procurement must be in compliance with applicable OMB Circulars. The percentage of costs charged to Federal assistance programs for a single audit shall not exceed the percentage represented by Federal funds expended to total funds expended by the subrecipient during the fiscal year. Exception: The percentage for a program may be exceeded if appropriate documentation demonstrates higher actual costs to meet program specific audit requirements. Refer to 10 CFR 440.23 (d).

1.4.7 Training and Technical Assistance (T&TA) Costs

Allowable T&TA costs include:

- Staff salaries while attending training, monitoring, providing training, traveling to and from training, and participating in on-the-job training
- Subrecipient costs (participation, travel, logistics) to attend approved T&TA activities
- Equipment and materials related to training may also be purchased with these funds
- Cost of providing T&TA to other agencies as approved by KHRC
- Providing information concerning conservation practices to occupants of eligible dwelling units (client education)
- Evaluation of program outcomes

Contractor training expenses are allowable T&TA expenses provided a retention agreement is obtained. The "KWAP Retention and Reimbursement Agreement" form must be utilized and further explains the allowable use of T&TA funds to advance and/or reimburse contractors for trainings. T&TA funds may only be used to pay for contractor trainings at the request of the subrecipient or KHRC for WAP-related training. T&TA funds may not be used to pay for licenses or certifications required by state, federal, or local law, with the sole exception of KDHE's Lead Safe Work Practices course. Allowable contractor training costs may include the cost of the training course, reasonable travel costs, and/or an hourly stipend to attend the training. Per diem expenses are not allowed. At this time, an hourly stipend or reimbursement rate shall not exceed $20 per hour.

1.4.8 Client Outreach Kits

As budgeted and authorized by KHRC, LIEAP funds can be used to purchase and provide DIY weatherization kits to income eligible clients on the weatherization waiting list as they wait for full weatherization services if full services are delayed.

1.4.9 Weatherization Readiness Funding (WRF)

Weatherization readiness funds are designated for homes that need weatherization related repairs that if left unaddressed would lead to or has resulted in deferral of weatherization services. This funding is specifically targeted to reduce the frequency of deferred homes that require other services, outside the scope of traditional weatherization, before the weatherization services can commence. This budget category is unique to the DOE grant and available as awarded through the annual DOE allocation process.

1.4.10 LIEAP Heating/Cooling Repair or Replacement (LP-HCRR)

The LIEAP Heating/Cooling Repair or Replacement (LP-HCRR) program is an option available to KWAP Subrecipients to complete mechanical repair or replacement work for clients in owner occupied homes. Assistance is available to income eligible clients in an emergency situation as they wait for full weatherization services OR for income eligible clients that are not eligible for the Weatherization Assistance Program due to previous weatherization, in cases where the homeowner elects not to proceed, or the home is not eligible to proceed (i.e. deferral) with full weatherization services. This budget category is unique to the LIEAP grant and is set as a percentage of the total LIEAP allocation, currently set not to exceed 10%.

1.5 PROPERTY STANDARDS

Equipment is defined as any article of tangible, non-expendable personal property having a useful life of more than one year and an acquisition cost of $10,000 or more per unit. This would include vehicles and tools.

Materials and Supplies are defined as all tangible personal property other than those described in Equipment. A computing device is a supply if the acquisition cost is less than the lesser of the capitalization level established by the subrecipient for financial Statement purposes or $10,000, regardless of the length of its useful life.

1.5.1 Purchases

1.5.1.1 Equipment

All subrecipient equipment purchases are subject to competitive bidding and require prior approval by KHRC (and the Department of Energy if DOE funds are used), regardless of being purchased with federal funds or program income. Failure to follow these procedures may result in disallowances of these costs.

All requests for prior approval must be submitted in writing to KHRC by submitting a Purchase Request Form available on the WAP SharePoint site and shall include:

- Brief narrative and detailed description of equipment
- Cost and cost analysis
- Copies of invitations for bids and responses
- Justification for purchase (purpose and benefits for weatherization program)
- Authorization for equipment disposal, if applicable (see disposition)

Note: All bid specifications must be generic enough to encourage competitive participation. They cannot be manufacturer or brand name specific, nor can they include only options or combinations of options available from only one manufacturer or dealer. In keeping with the WAP mission of conserving energy, subrecipients are strongly encouraged to purchase alternative fueled vehicles.

All titled weatherization equipment purchased with weatherization funds shall be titled to the weatherization subrecipient agency. Kansas Housing Resources Corporation is to be shown as the first lien holder on all titles. Titles will be conditional based on the following conditions:

- Use the equipment for the authorized purposes of the project during the period of performance, or until the property is no longer needed for the purposes of the project.
- Not encumber the property without approval of the Federal awarding agency or pass-through entity.
- Use and dispose of the property in accordance with 2 CFR 200 and guidelines set forth in this manual.

Copies of the Title and Registration Receipt shall be sent to KHRC as soon as the new equipment is titled and registered.

1.5.2 Insurance

Any vehicle purchased or leased with weatherization funds shall carry at least the minimum amount of liability insurance as required by state statute and complete physical damage coverage to protect the investment of the vehicles aged five years or newer.

1.5.3 Inventory

Subrecipients must establish a written inventory policy that includes control systems to prevent loss, damage, or theft of equipment, materials, and supplies.

1.5.3.1 Equipment

Property records must be maintained for equipment that include a description of the property, a serial number or other identification number, the source of funding for the property (including the FAIN), who holds title, the acquisition date, and cost of the property, percentage of Federal participation in the project costs for the Federal award under which the property was acquired, the location, use and condition of the property, and any ultimate disposition data including the date of disposal and sale price of the property.

Subrecipients are required to perform inventory checks at least annually.

An updated equipment inventory must be made available to KHRC upon request.

A mileage log and service maintenance log must be maintained by the subrecipient for each vehicle purchased with WAP funds or program income. Mileage to be paid for with WAP funds must be supported with a mileage log.

A daily usage system must be a central feature of the inventory system that makes it possible to track materials used on an individual home back to the point of purchase.

Theft of WAP purchased tools and equipment along with any accidents with WAP purchased vehicles must be reported to the proper authorities. A copy of the applicable report must be given to the KHRC fiscal representative along with all necessary insurance information.

1.5.3.2 Materials

All materials received must be accounted for by invoices from contractors which describe the material(s), number of units, unit cost, total costs, shipping charges, if any, and sales tax.

Subrecipients shall report the value of materials issued for completed projects during the reporting month.

1.5.4 Disposition

1.5.4.1 Equipment

Items of equipment with a current per unit fair market value of $5,000 or less may be retained, sold or otherwise disposed of with no further obligation to the Federal awarding agency. KHRC must still be notified.

If a subrecipient has no need for property purchased with weatherization funds, with a fair market value (per item) price of $10,000 or more, the subrecipient must do both of the following:

- Submit a Property Disposition Request and Report to KHRC prior to disposition of the item. The report is available on the WAP SharePoint site.
- Offer the property to local agencies with weatherization programs.

Equipment will be given to local agencies on a first-come, first-served basis.

If no local agencies want the equipment, KHRC will provide disposition instructions (with federal approval).

Proceeds from the sale of real property, equipment, or supplies are not program income, and would not be reported as such. However, proceeds shall be retained by the subrecipient and used to further weatherization program activities.

1.5.4.2 Supplies

Title to supplies will vest in the non-federal entity upon acquisition. If there is a residual inventory of unused supplies exceeding $10,000 in total aggregate value upon termination or completion of the project or program and the supplies are not needed for any other federal award, the non-federal entity must retain the supplies for use on other activities or sell them, but must, in either case, compensate the federal government for its share. The amount of compensation must be computed in the same manner as for equipment.

1.6 PROCUREMENT

The objective of the procurement process is to obtain needed services, goods, and materials at the lowest possible price or in the manner most advantageous to the program, in a fair and open manner, without compromising quality or production. Subrecipients shall submit their written procedures and forms for contracting and procurement to the State for approval prior to implementing them. Standards must reference federal regulations. KHRC reserves the right to request a copy of the bid packages for its review and approval. Subrecipients shall request written authorization from the State to use a "sole source" bid and maintain file documentation. The following minimum information must be provided when requesting sole source approval: bid packet, service or material specified, information about where and how the bid was advertised and/or which vendors were solicited, bid results received, and a comparison to previous year's pricing or other price comparisons. The State shall review and approve or deny use of a sole bidder to the Subrecipients. Sole source bids for DOE weatherization require DOE's prior approval when they exceed $25,000. Subrecipients are required to include the specifications which must be met or exceeded in bid packages and contracts for weatherization materials. To the maximum extent practicable, Subrecipients are required to procure goods and services at competitive prices. Acceptance of cost-plus pricing shall result in disallowed costs and be recouped.

Grantor's prior approval for purchasing equipment shall be required in accordance with applicable unit cost thresholds for nonprofit organizations, institutions of higher education, and units of local government. Title shall remain with the Subrecipients; however, KWAP and the federal agency reserve the right for title transfer of items with a unit acquisition cost of $10,000. At a minimum, procurement procedures shall comply with U.S. Financial Assistance Rules, 2 CFR 200 or 45 CFR 75 as applicable.

1.6.1 Debarred Contractors

While several factors should be considered to determine if a contractor is "responsible" (such as, but not limited to, work history, references, and capacity to do the work) the subrecipient must also assure that the award is not made to a contractor appearing on a federal list barring them from being awarded public money. Subcontractors appearing on the Federal debarment lists are also prohibited from doing work. The Federal debarment list should be checked online at www.sam.gov before using a contractor and annually as applicable.

Advantages to the recipient, price, quality, and other factors may be considered. Solicitations shall clearly set forth all requirements that the bidder or offeror shall fulfill in order for the bid or offer to be evaluated by the recipient. Any and all bids or offers may be rejected when it is in the recipient's interest to do so.

1.6.2 Subcontractor Agreements

At a minimum, subcontractor agreements must contain the following:

- Beginning date of each annual budget period;
- Ending date of each annual budget period;
- Total amount and method of compensation and compensation method;
- List of materials, number of items/units, and/or description of services;
- Cost of each material, item/unit, and/or service being supplied; and,
- All other terms and conditions required by State and Federal laws including 2 CFR 200 Appendix II,
- All subcontractor agreements must be signed by an authorized subrecipient representative on behalf of the agency and signed by the subcontractor. Scanned originals or digital signatures are acceptable.

1.6.3 Procurement Documentation

Adequate documentation of actions taken in connection with each method of procurement is required as follows:

For written quotations (fax quotations must be followed up with a signed original), the contractor must provide at least the following information: name and address of the contractor, date of the quotation, description of the item or details of the service to be provided, price quoted, and name of contact. (Written quotations must be placed in the subrecipient's files.)

When a request for proposals (RFP) is used, the minimum acceptable documentation must include:

- A copy of the RFP that was issued;
- A Statement of how firms solicited were identified;
- A list of firms solicited;
- A copy of any newspaper advertisements used;
- Each proposal that was received;
- The written criteria for evaluation of the proposals; and,
- Documentation of evaluation of the proposals.

1.7 Reporting Requirements

Weatherization subrecipients shall report monthly financial and program data to KHRC. Complete and accurate reports must be submitted by the tenth day of each month or the first working day thereafter if the tenth day falls on a weekend or holiday. Statewide implementation of the Hancock Software Inc. enables the Subrecipient to obtain all the information needed. On a monthly basis, subrecipients must submit the following to the KWAP for all active grants:

- Monthly Invoice (titled Request for Payment and Statistical Report), emailed or mailed
    - Signatures not required on the invoice

- Signed Monthly Cash Reconciliation Report, emailed or mailed
    - Signatures required. All signature lines must be signed by an authorized signer.
    - Note: Cash Reconciliation Reports are due for all active awards regardless if funds are being requested or not.

Additional reporting and information may be required as requested by KHRC throughout the year. Examples of such reporting include:

- Equipment inventory (vehicles, equipment)
- NASCSP funding survey, upon request
- Production Updates (number of homes and expenditures in progress)
- Application tracker, upon request
- SHPO Report, upon request
- LIEAP Performance Measures Tracker, upon request,

Reports submitted which contain substantial errors or insufficient information shall be returned to the agency for corrections. KWAP will make only minor handwritten corrections on reports.

All accounts payable must be liquidated prior to the submission of the final report. While new expenditures may not be incurred after the grant award expiration date, grant files will not be considered closed officially until the final resolution of the CPA or KHRC audit. KHRC will provide a closeout report within 180 days after the grant ending date.

1.7.1 Hancock Software Inc.

1.7.1.1 Client List

All weatherization applications received, whether complete or not, shall be entered into the Hancock client list. The client list shall be maintained to reflect the current waiting list and client eligibility and status.

1.7.1.2 Deferred Clients/Jobs

All deferred weatherization applications and jobs shall be entered into the Hancock system and the corresponding deferral reason selected from the available options.

1.7.1.3 Dual Funding Homes

Dual funding of homes is allowed, and may even be required by certain grants, as long as the project qualifies for each individual grant. Dual funding is an effective way to manage each grant's average cost

per home. When homes are dual funded, they will be reported in Hancock as one project but each measure will be identified by funding source. Certain grants may require a brief narrative of work performed in the measures list section.

When dual funding homes, each grant shall have at a minimum one energy conservation measure recorded. Exceptions to this rule exist for specialty grants, i.e., KS24, etc.

1.7.1.4 Completed Homes Records

Subrecipients are required to reference records of all weatherized homes, to prevent the possibility of inadvertently re-weatherizing a house. The Hancock reporting system maintains information on all completed homes since 2017. The WMS reference list maintains information on completions prior to 2017. These records contain name, street or rural addresses, county, completion date, and total cost. These records shall be checked during the application processing step.

1.7.1.5 Close Out Procedures

Closeout is done after the Program Year ends. All work and final inspections being reported to a grant must be completed before the Program Year ends, but the closeout period allows subrecipients to report on expenditures. Subrecipients can submit up to three closeout reports to finalize expenditures. The first closeout report must be submitted by the tenth day of the month following the last regular monthly report, or the first working day thereafter if the tenth day falls on a weekend or holiday. If necessary, the second closeout report must be submitted 2 weeks after the first closeout report. Subsequently, the third closeout report, if necessary, must be submitted 2 weeks after the second closeout report.

Close out reports include:

- A finalized Monthly Invoice
- Budget revisions if greater than 10% of the approved budget
- A finalized Cash Reconciliation Report

1.7.2 Special Status Reports

In accordance with weatherization grant document, Attachment 2, Federal Assistance Reporting Checklist, KHRC is required to report to DOE the below items. By extension Subrecipients are required to report the below items to KHRC within 5 calendar days.

- Refusal of a Subrecipient to accept flow down requirements in the Special Terms and Conditions and/or any Attachment to the EERE Award
- Potential or actual violations of federal, state, and municipal laws arising out of or relating to work under the Award
- Any improper claims or excess payments arising out of or relating to work under the Award
- Potential or actual noncompliance with EERE or DOE reporting requirements under the Award
- Potential or actual violations of the lobbying restrictions in the Award
- Potential or actual bankruptcy/insolvency of the Grantee or a Subrecipient
- Potential or actual violation of U.S. export control laws and regulations arising out of or relating to the work under the Award
- Any fatality or injuries requiring hospitalization arising out of or relating to work under the Award

- Potential or actual violations of environmental, health, or safety laws and regulations
- Any event which is anticipated to cause a significant slippage or cost increase
- Any damage to Government-owned equipment in excess of $25,000.
- Any incident arising out of or relating to work under the Award that has the potential for high visibility in the media.

1.7.3 Grantee Reporting Requirements

In accordance with 10 CFR 440.24, 2 CFR 200.333 and any further requirements, the State will keep such records as the Federal funding source requires, including records which fully disclose the amount and disposition by the State and each subrecipient of the funds received, the total cost of a weatherization project or the total expenditure to implement the State plan for which assistance was given or used, the source and amount of funds for such project or program supplied by other sources, and such other records as the Federal funding source deems necessary for an effective audit and performance evaluation.

1.8 MONITORING BY STATE

In accordance with 10 CFR 440, KWAP has the responsibility to perform monitoring and oversight of the program implementation and work performed by all subrecipients. This responsibility includes ensuring that grant funds are expended in accordance with applicable law, including regulations contained in 10 CFR 440; applicable OMB circulars; DOE Financial Assistance Rule 2 CFR 200 and 2 CFR 910; Weatherization Program Notices (WPN's), and other procedures that DOE may issue. Monitoring will ensure weatherization programs are being managed within Federal and State guidelines and that eligible low-income families are receiving high-quality and appropriate weatherization of their homes.

To fulfill this requirement KHRC will conduct comprehensive monitoring of each subrecipient at least once a year as identified in the State plan utilizing the approach below.

Risk assessments of each agency will be conducted annually by KHRC. A monitoring plan will be developed based on the results of this information, but will include at a minimum:

A. Approach:

1. Programmatic and Management Monitoring

    a. KWAP staff will conduct a programmatic and management review during annual one to three-day on-site, virtual, or hybrid compliance monitoring visits utilizing the Programmatic and Management Compliance Monitoring Instrument. Monitoring will be completed by the Weatherization Program Manager or Weatherization Program Monitor.

    b. Training and Technical Assistance will be provided as identified as needed or as requested during this monitoring visit.

2. Subrecipient Production Monitoring

    a. Subrecipient and home inspection monitoring will be conducted during one- to four-day on-site visits by the Weatherization Field Specialists / Weatherization T&TA Coordinator. All

grantee field monitoring will be performed by a certified Quality Control Inspector (QCI). For larger subrecipients several visits may be needed. KWAP will inspect between 5% and 10% of the completed homes (depending on each individual subrecipient's ability to have independent QCI for Energy Audits and Final Inspections), filling out a Home Inspection Monitoring Instrument for all homes inspected. The client file for monitored homes must contain a form that certifies that the unit was monitored and that all work met the required standards. The form will contain the monitor's printed name, signature, and QCI certification number and date. An in-progress unit will be monitored annually for each producing agency.

b. The effectiveness, safety, workmanship, overall appearance, and compliance with Kansas SWS field standards will be evaluated during the monitoring visit.

c. Dwelling units inspected will be selected from a list of reported projects that will allow a comprehensive sample.

d. Inspection visits may focus on problem areas identified in previous monitoring reports to ensure that problems have been corrected.

e. Units which demonstrate satisfactory completion of weatherization measures and compliance with the SWS specifications will be identified as "Pass" units; those units in which weatherization measures were completed but could have benefitted by "Best Practices" or other recommendations will be identified as "Pass with Comments" and T&TA or suggestions for the future will be made. Units on which weatherization measures either were not completed, were completed unsatisfactorily, or not in compliance with the SWS specifications will be identified as "Rework" units. If significant deficiencies are discovered, such as health and safety violations, poor quality installation of materials, or major measures missed, the Subrecipient will be required to take appropriate corrective action to resolve the outstanding issues in a timely manner. As a general rule, no additional DOE WAP funds can be charged for "Reworks" on homes that have already been reported to DOE as completed, weatherized units. "Reworks" identified on units that are reported as completed to DOE will be addressed on a case-by-case basis in accordance with WPN 11-3. Corrective action may require the removal of that unit from submitted reports or the use of non-DOE funds to correct the issue.

f. Noncompliance items or issues not resolved may result in KWAP's recoupment of funds.

g. Subrecipients receiving a high number of "Reworks" will be monitored more frequently and will have a higher percentage of homes examined until the Grantee can be assured that all deficiencies are resolved. Once procedures are in place to prevent recurrences, typical monitoring will resume.

h. Contractors found to be repeatedly failing to perform adequately may be disqualified from future work if additional worker training fails to correct issues and concerns. Subrecipients will first contact underperforming contractors by telephone to try to resolve concerns. If concerns continue, the Subrecipient will initiate a written request for corrective action.

Persistent concerns or deviations from specified requirements may result in withheld payments, contract probation, or contract termination.

i. Training and Technical Assistance will be provided as identified as needed or as requested during this monitoring visit.

3. Financial Monitoring

   a. KWAP staff will conduct a fiscal review during annual one- to three-day on-site, virtual, or hybrid compliance monitoring visits by the Fiscal Monitor, utilizing the Fiscal Monitoring Tool and the accompanying Fiscal Monitoring Guide.

   b. Sensitive or significant noncompliance findings, such as waste, fraud, or abuse will be reported to DOE immediately.

   c. Issues not resolved may result in disciplinary action, including recoupment of disallowed costs, grant probation, or grant termination. See section: High Risk Status.

   d. Training and Technical Assistance will be provided as identified as needed or as requested during this monitoring visit.

4. KWAP staff will review monthly financial and production reports for each agency.

   a. If irregularities or deviations from planned activities are found, KWAP staff will contact Subrecipient agency staff for an explanation or correction. This contact will usually be by telephone or email first; if not resolved by telephone or email, KWAP will initiate a written request for action.

   b. If irregularities or deviations occur over several months, KWAP may withhold payments until they are corrected. Long-term irregularities or deviations from planned activities may result in grant probation and grant termination. See: High Risk Status.

   c. Sensitive or significant noncompliance findings, such as waste, fraud, or abuse will be reported to DOE immediately.

5. KWAP staff will review the latest annual single audit report of each agency annually.

   a. If the reports note program findings, KWAP will require responses and, if appropriate, corrective action.

   b. Depending on the severity of any problems reported, a Subrecipient may receive a follow-up monitoring review, concentrating on prior deficiencies, and required corrective actions.

c. Issues not resolved in a timely manner may result in recoupment of disallowed costs, grant probation, and grant termination. See: High Risk Status

d. Sensitive or significant noncompliance findings, such as waste, fraud, or abuse will be reported to DOE immediately.

B. Exemplary Agencies. Previous guidance suspended the designation of "Exemplary" Subrecipients so this status will not be utilized.

C. Visit: Monitoring visits will be scheduled at the convenience of KHRC and the Subrecipient through written correspondence. After the monitoring review is complete, the monitor will brief the Subrecipient, usually through an exit briefing, on the observations and monitoring assessments generated by the monitoring visit. Any issues that present imminent danger to people will be discussed and must be resolved immediately.

Sensitive or significant noncompliance findings, such as waste, fraud, or abuse will be reported to DOE immediately.

Within 30 days after each visit, a written report will be prepared for the Subrecipient that describes the current monitoring assessment (identifying any findings, concerns, recommendations, commendations, and best practices) and any corrective actions, if applicable. The Subrecipient has the right to respond in writing and present additional supporting documentation, clarification, and information as to why a particular finding(s) should be waived. If necessary, the Subrecipient will have 35 calendar days to respond with an acceptable corrective action plan.

Subrecipient noncompliance or repeated unresolved findings may result in disciplinary action, including recoupment of disallowed costs, grant probation, or grant terminations. See: High Risk. Noncompliance and unresolved findings will be reported to the DOE Project Officer.

D. Tracking and Analysis. Tracking and analysis of monitoring visiting will be conducted to ensure resolution and improvement. All corrective action items will be tracked to completion and will conclude with a close out letter.

Annually, KWAP staff will summarize each of its Subrecipients' reviews and monitoring reports to identify each Subrecipient's needs, strengths, and weaknesses. The results of this monitoring analysis will be considered during annual planning and assessment of T&TA needs. An annual risk assessment of each Subrecipient will also be included with the analysis.

E. Reporting. A narrative report including successes and significant problems will be reported to DOE in the *T&TA, Monitoring, and Leveraging Report*. This report will include at a minimum: the Subrecipients monitored, and major findings (waste, fraud, and abuse) and resolutions, trends with respect to findings, concerns, or other issues, needed T&TA, Subrecipients that are considered high risk and a corrective action plan, and outcome activities involving T&TA and monitoring training.

1.8.1 KWAP Evaluation System for Findings

Any of the following criteria generally constitutes a finding. Findings may result in the requirement of additional training for the subrecipient personnel and/or the recoupment of disallowed costs.

- A fiscal element that does not comply with internal control standards, Federal or State Statute or Regulation to an extent to cause a concern either due to materiality in monetary volume or risk.
- The health and safety of clients, subrecipient staff, and subrecipient subcontractors, or the integrity of the building structure is threatened by work completed with weatherization funds.
- A health or safety problem is created by, exacerbated by, or not corrected as required by the delivery of KWAP services.
- The omission of a required measure or technique with major energy savings potential, as determined by WAweb Recommended Measure Report or a required procedure that addresses health and safety concerns.
- Poor quality of work that significantly affects the performance of measure or repairs.
- Expenditure of KWAP funds on measures that are not approved under KWAP or required for health or safety reasons.
- Expenditure of funds on measures that do not yield an acceptable savings-to-investments ratio as determined by WAweb.
- Expenditure of KWAP funds on measures that were not actually completed.
- Incomplete or incorrect health and safety testing and documentation of mechanical equipment.
- Numerous change orders or reworks.

1.8.2 High Risk Status

A Subrecipient may be considered “high-risk” if KHRC determines that a subrecipient:

- Has a history of unsatisfactory performance;
- Has ongoing performance issues;
- Is not following the Subrecipient Procedures Manual and /or Kansas SWS Field Guide
- Is not financially stable;
- Has a management system which does not meet program guidelines;
- Has not conformed to terms or conditions of previous awards;
- Has not demonstrated responsible behavior
- Has otherwise caused KHRC reasonable concern.

If KHRC awards a subrecipient identified as “high risk”, special conditions and/or restrictions may be a condition of the award. Special conditions or restrictions may include:

- Paying the subrecipient strictly on a reimbursement basis;
- Withholding authority to proceed to the next phase until receipt of evidence of acceptable performance within a given funding period;
- Requiring additional and/or more detailed financial reports;
- Initiating additional project monitoring;
- Requiring the subrecipient to obtain technical or management assistance;
- Establishing additional prior approvals.

If KHRC decides to impose such conditions, KHRC program staff will notify the subrecipient as early as possible, in writing, of the:

- Nature of the special conditions/restrictions;
- Reasons for imposing the special conditions/restrictions;
- Corrective actions which must be taken before the conditions/restrictions will be removed and the time allowed for completing the corrective actions; and
- Procedure for requesting reconsideration of the conditions/restrictions imposed.

Additional penalties that could occur if KHRC decides to impose conditions identified in the preceding sections:

- Delayed payments until concerns/issues are resolved
- Partial payments until concerns/issues are resolved
- Termination of the grant or contract

Written, 30-day prior notification will be provided by KHRC to the agency if any of these additional penalties are implemented.

1.8.3 Progression of Concern

During the normal execution of the weatherization program, should KHRC identify irregularities, deviations, or general concerns the following progression will serve as a general guideline of steps. Each situation will be assessed on a case-by-case basis and KHRC reserves the right, and may be required, to expedite or omit steps.

- Contact by phone or email.
- A formal written letter or request.
- Elevation to high risk. See section on High Risk.
- Removal of automatic grant renewal and request for proposals for a new service provider for the next program year.
- Immediate termination of the grant or contract.

1.8.4 Appeals and Dispute Resolution

Local agencies have the responsibility to resolve all client complaints, including applicant denials, project deferrals, and work quality issues. Local agencies shall establish in writing a clear, objective, and prompt appeals and dispute resolution process.

Local agencies must ensure each client or applicant is aware of their right to file an appeal and the associated time restrictions. To certify that a client or applicant understands his/her rights, this information will be provided on the application and on all deferral or dispute correspondence. Local agencies will also be responsive to requests for information regarding the appeals and dispute resolution process. The client or applicant may withdraw a request for appeal if the agency review results in a negotiated settlement.

An appeal or grievance must be filed in writing for a subrecipient to take action, except when a client complaint can be resolved quickly. Prompt action and negotiations by the agency do not preclude the right to appeal. Local agencies must document each step of the appeals process including all communication with the client.

The subrecipient is encouraged to include a review of the decision by the weatherization director (if the weatherization director did not make the initial determination which is appealed) and at least the executive director of the agency.

If the appellant is dissatisfied with the decision of the subrecipient a request for appeal to the State must be submitted in writing to Kansas Weatherization Assistance Program staff within ten days of notice of action. Upon receipt of the request for appeal, State staff will copy the request for the agency whose decision has been appealed. The subrecipient will be requested to supply any documents relevant to the decision within seven days of receipt of the appeal by KHRC.

KHRC weatherization staff will review the request for appeal and any supporting documents and will respond in writing to the applicant or client within thirty days of receipt of the appeal.

If the appellant is dissatisfied with the decision of KHRC weatherization staff, he/she may appeal to the Director of Community Solutions (CS) of KHRC within ten days and may include additional documentation appropriate for review. The CS Director will respond in writing to the appellant within thirty days of receipt of the appeal.

If the appellant is dissatisfied with the decision of the CS Director, he/she may appeal to the Executive Director of the Kansas Housing Resources Corporation within ten days of receipt of the decision of the Executive Director and may include additional documentation appropriate for review. The Executive Director of the Kansas Housing Resources Corporation will respond in writing to the appellant within thirty days of receipt of the appeal.

The decision of the Executive Director of the Kansas Housing Resources Corporation is the final administrative remedy in the appeal process. If the appellant is dissatisfied with the final decision, he/she may seek remedy through the court system.

1.8.5 Training and Technical Assistance (T&TA)

T&TA activities are intended to maintain or increase the efficiency, quality, and effectiveness of the Weatherization Program at all levels. Such activities will be designed to maximize energy savings, minimize production costs, improve program management and operational efficiencies, improve crew/contractor work quality, increase client satisfaction, and to reduce the potential for waste, fraud, abuse and mismanagement.

T&TA funding will be available for Grantee and Subrecipient use. Funds may be used to pay salary, travel, and operational and contractual costs for monitoring, obtaining and maintaining certifications, training, training support, and providing or receiving programmatic and technical assistance. T&TA funds may also be used to train contractors participating in the program provided a retention agreement is obtained.

The KWAP will use the following methods to provide T&TA:

- KWAP staff will provide T&TA through onsite, written, and telephone communication with Subrecipient staff.
- Staff will provide specific T&TA on automated audit inspection procedures as a regular component of the on-site Programmatic and Management and production monitoring visits.

- KWAP staff or contractor(s) will provide on-site, or offsite T&TA as needed. Examples of as needed trainings include worse case draft testing, recessed lighting LED retrofits, rim and band guidance, pressure pan testing, dense packing walls and others. Need may be identified by the Subrecipient staff, Grantee monitoring visits, QA review visits, DOE Project Officer monitoring visits, internal State audits, IG reports, or by KWAP staff as the result of observation for resolution of problems, or to meet updates required by DOE.
- KWAP and Subrecipient staff will participate in national activities as they are planned. KWAP will ensure staff are able to attend these meetings and will encourage Subrecipient staff to take advantage of training opportunities by funding Subrecipient attendance with T&TA funds available to the KWAP.
- KWAP staff will attend DOE mandated activities/events, NASCSP events, State Weatherization Directors' meetings, national DOE sponsored conferences, and other staff development trainings as needed or required. Continuing education and conference attendance ensure Grantee effectiveness in administering and implementing the grant.
- Quarterly Weatherization Directors' Meetings will be scheduled to address areas of common concern about training and policy for current initiatives and future program requirements. T&TA needs will be identified through feedback from the Subrecipients.
- Annual subrecipient closeout reports compare subrecipient production numbers, expenditures, average cost per unit expenses, and H&S expenses to statewide averages. Unusually high or low expenditures will receive further review and may identify additional T&TA needs.
- The KWAP air sealing effectiveness is calculated using data provided from pre- and post-blower door measurements. This analysis provides KWAP with information on each agency and weatherization auditor which allows staff to identify significantly high and/or significantly low performers. KWAP staff analyzes the data for T&TA purposes that allows them to compare effectiveness within a Subrecipient's area and between Subrecipients. The need for additional T&TA may be identified through these comparisons.
- Kansas requires successful completion of its certification training for all auditors and inspectors. The State allocates T&TA funds to each Subrecipient for the training as needed. When a Subrecipient agency is unable to hire a certified weatherization auditor, the State will allow an on-boarding period, during which the new hire must complete his/her auditor certification requirements. See Auditor/Inspector Training and Certification. During the on-boarding period, all audits must be supervised by a certified weatherization auditor/inspector until training and certification requirements are met. Alternatively, an agency without a certified auditor/inspector may subcontract with a certified auditor/inspector. For current certified staff, use of continuing education credits to maintain DOE-accepted credentialing body's certification will be funded through T&TA funds.
- Effectiveness of T&TA activities will be evaluated by formal evaluation forms completed by participants to Statewide training workshops, State monitoring staff's observation and reporting of improvement in work standards and reporting, informal comments by workshop participants, agency directors, and others, and by disbursement of surveys to Subrecipients and contractors.
- Annual training is provided on a variety of topics for the KWAP network. Training is mandatory as announced. Annual training typically includes fiscal and technical training and may include training tracks at the Annual Kansas Housing Conference. See the Annual State Plan for annual training activities.

1.9 Record Retention and Access

In accordance with 2 CRF 200, financial records, supporting documents, statistical records, and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three (3) years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient. Please see 2 CRF 200 for specific exceptions that may increase the length of time records must be retained. Please refer to agency-specific record retention policies. KHRC will keep records for five years from the end of the period of performance.

The Federal awarding agency, Inspectors General, the Comptroller General of the United States, and KHRC, or any of their authorized representatives, must have the right of access to any documents, papers, or other records of the non-Federal entity which are pertinent to the Federal award, in order to make audits, examinations, excerpts, and transcripts. The right also includes timely and reasonable access to the non-Federal entity's personnel for the purpose of interview and discussion related to such documents. The rights of access as per 2 CFR 200.336 are not limited to the required retention period but last as long as the records are retained.

Active Grants	Period of Performance End Date
IIJA	6/30/2029
DOE 25	TBD
DOE 24	6/30/2025
LIEAP 25	3/31/2026
LIEAP 24	3/31/2025
KS 25	6/30/2026
KS 24	6/30/2025
Evergy Central 25	1/31/2026
Evergy Metro 25	1/31/2026
Historical Grants	**Period of Performance End Date**
DOE 23	6/30/2024
DOE 22	6/30/2023
DOE 21	6/30/2022
DOE 20	6/30/2021
LIEAP 23	3/31/2024
LIEAP 22	3/31/2023
LIEAP 21	3/31/2022
LIEAP 20	3/31/2021
KS 23	6/30/2024
KS 22	6/30/2023
KS 21	6/30/2022
KS 20	6/30/2021
KGS 21	9/30/2022
KCPL 21	1/13/2022

KCPL 20	12/21/2020

2 PROGRAM GUIDANCE

2.1 CLIENT INTAKE

2.1.1 Client Intake

Clients will apply for the Weatherization Assistance Program directly to the Subrecipient providing the program in their service territory. Subrecipients shall have a written procedure in place to process applications and ensure eligibility.

Key steps in the process shall include:

- Entering the client into the Hancock system
- Ensure application completion. See Client File Requirements
- Ensure client income eligibility. See Determining Client Income Eligibility
- Confirm structure eligibility. See Determining Building Eligibility
- Notification of application receipt/status.

2.1.2 Maintaining the Privacy of Recipients of Services

Transparency requirements placed on weatherization financial assistance programs shall be followed. Required information shall be provided to the requestor. However, KHRC and subrecipients must comply with all requirements of the Government to protect the privacy interests of individuals who participate in these financial assistance programs, as per CFR200.303e. Personal identifying client information must be kept confidential and must not be made available to the public. Accessibility to client information must be limited to pertinent agency and program personnel.

2.1.3 Delays in Providing Services

If an agency has a backlog in weatherization applications, clients shall be contacted by letter to advise them of the possible delay in receiving weatherization services. A copy of this letter will be placed in the client's folder. If waiting lists exist, pre-inspections by subrecipient agencies which exceed the total number of units to be weatherized in the current program year are conducted at the risk of the subrecipient agency.

2.2 ELIGIBLE CLIENTS AND DWELLINGS

2.2.1 Weatherization Assistance Eligibility:

A dwelling unit shall be eligible for weatherization assistance if it is occupied by an income eligible family unit (see Determining Client Income Eligibility) AND the structure is eligible (see Determining Building

Eligibility). Every dwelling weatherized must meet both the client eligibility and the structure eligibility requirements. Eligible structure types include single family, manufactured housing, multifamily buildings, and shelters.

2.2.2 Determining Client Income Eligibility

A client shall be eligible for weatherization assistance under this part if the occupant's income:

DOE and LIEAP Grants: Is at or below 200 percent of the poverty level as determined in accordance with criteria established by the Director of the Office of Management and Budget.

OTHER Grants: As identified in specific grant agreements.

Or, if the dwelling unit contains an occupant who has received cash assistance payments under Title IV or XVI of the Social Security Act or applicable State or local law during the twelve-month period preceding the determination of eligibility for weatherization assistance. Applicants receiving Supplemental Security Income (SSI) or Temporary Assistance to Needy Families (TANF) funds will automatically qualify for weatherization services for either the DOE or LIEAP grants. Applicants receiving LIEAP Utility Assistance from Kansas Department of Children and Families (KDCF) during the current program year will automatically income-qualify for weatherization services. "During the 12-month period" is defined as having received within the 12-month period but not restricted to the entire period during that program year.

WPN 22-5 extended categorical income eligibility to HUD means-tested programs. WAP subrecipients must certify, and document, that applicants have met the income requirements of HUD means-test programs through mechanisms including, but not limited to, applicant documentation, interagency lists of recipients, shared system databases, etc. The method of verification of eligibility must be included in the client file.

WPN 25-4 extended categorical income eligibility to select U.S. Department of Agriculture (USDA) means-tested programs at 80% AMI or below. WAP subrecipients may certify that applicants have met the income requirements of USDA means-tested programs through mechanisms including, but not limited to, applicant documentation, interagency lists of recipients, shared system databases, etc. The method of verification of eligibility will be included in the client file.

The applicant must provide evidence or income documentation satisfactory to the outreach worker that the household meets the eligibility requirements. The documentation must be maintained in the client file and made available for inspection by the agency employees and State staff. Applicant income must be verified or calculated for the one-year period prior to the certification month. Income data for a part of a year may be annualized to determine eligibility. For example, by multiplying by four the amount of income received during the most recent three months. A minimum of three months' income documentation must be available. If the household is determined to be ineligible based on the average income for three months, the applicant should be notified that 12 months of documentation may be provided to re-determine eligibility. Client income must be verified for the three-month period prior to the certification month or the twelve-month period if necessary. Applications on file for one year or more must be re-certified for the year prior to pre-inspection.

Definition of Income- Income shall be defined by the most recent DOE issued WPN in effect. Income guidance comes in WPNs labeled as WPN "year" - 3.

KWAP has received clarification that when using a Social Security Benefit Letter to calculate income, the deduction for Medicare is not considered income. Use the net value after the Medicare deduction for the monthly benefit.

Tax forms may be used to verify income only if the certification period is from January through December; this generally means tax forms are not a useful source of income documentation.

For self-employed individuals, utilize a notarized statement declaring their net income for the previous 12 months. Documentation reporting a net loss for the year will be considered and reported in Hancock as having zero income.

2.2.3 Client File Income Documentation Requirements

Client eligibility verification shall be documented in the client file in accordance with the most recent DOE WPN guidance and shall include, as a minimum:

- Which 3-month period was annualized to calculate the annual income, or which 12-month period was considered.
- A list of all sources of client income for each household member, 19 years of age or older, who received income during the year prior to the certification month. Children 18 years of age or younger, who have no income, do not have to provide sources of income nor a notarized statement of no income.
- Documentation of income from each source for the period(s) being considered.
- The date and initials of the agency employee verifying the income.
- Applicants who have undocumented or zero income must provide a notarized statement declaring their income, or lack thereof, for the previous 12 months.

2.2.4 Eligibility Determined by Outside Agency/Program

If income eligibility is determined by an outside agency or program, i.e., LIEAP, USDA or HUD, any documentation used to determine eligibility, such as a copy of the LIEAP list, USDA or HUD eligibility documentation (TBRA, Section 8 or public housing eligibility), will suffice as evidence of client eligibility. This documentation and any related documents must be retained in the client file. USDA/HUD Income documentation for multifamily properties may be unit by unit or a combined rent role, occupancy report, type document. Documentation must include the tenant's name, unit number, and the property's calculated annual income for the household. (See example template on SharePoint)

Use of the annual LIEAP list provided by KDCF is allowed to determine eligibility for all weatherization grants (LIEAP and DOE). The LIEAP list includes a date for the program year in which it may be used. To use the LIEAP list to show eligibility, the project must be completed and reported in the same Program Year as the issued LIEAP list.

Multifamily- Specific Guidance per WPN 22-5 and WPN 25-4:

WAP providers generally encounter three types of multifamily properties assisted by HUD:

- Housing owned and operated by PHAs: WAP providers shall consider all such buildings managed by the PHAs referenced in this HUD Web page to be 100 percent income eligible.

- Privately owned multifamily buildings receiving project-based assistance: WAP providers should refer to these lists to determine the percentage of the units in each building that are income eligible.
- Privately-owned multifamily buildings that house residents receiving tenant-based assistance: WAP providers will determine the percentage of income eligible residences by either contacting the building owner/manager to obtain such Section 8 Housing Choice Voucher records (from HUD's Tenant Based Rental Assistance Program [TBRA]) or by individually verifying which residents hold such vouchers.

Properties included on the USDA Building Qualified List have been determined to be income eligible. Client income values must still be collected and reported in Hancock.

2.2.5 Approach to Tribal Organizations

In accordance with Federal rule, the State of Kansas recommends that tribal organizations not be treated as local applicants eligible to submit an application to operate a Weatherization Assistance Program. Native Americans will receive assistance as eligible individual applicants under program guidelines.

2.2.6 Qualified Aliens Eligibility

Subrecipients shall ensure that weatherization services shall only be provided to eligible populations. Subrecipients are directed to review https://www.acf.hhs.gov/ocs/resource/liheap-im-hhs-guidance-on-the-use-of-social-security-numbers-ssns-and-citizenship-status-verification. All client files will contain the signed Eligibility Certification statement "I certify that there is at least one United States citizen or Qualified Alien who resides at the address listed on this application. Qualified Alien is defined in section 431 of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996."

All qualified aliens continue to be eligible to receive assistance and services under the Weatherization Assistance Program if they meet other program requirements.

2.2.7 Period of Eligibility

An applicant will generally remain eligible for weatherization services for 12 months from the date of verified eligibility. However, if using the LIEAP list, eligibility is only valid for the current program year; see 2.2.4.

If weatherization work is expected to begin after 12 months from the date of verified eligibility, the household must show continued eligibility.

The assessment date is the date on which the initial energy audit occurs. An initial energy audit shall remain valid for a period of one year from the assessment date. Failure to begin weatherization work within one year from the assessment date shall require the home to be reinspected.

2.2.8 Priority Groups

Among eligible clients there are program priorities which the Kansas Weatherization Assistance Program and the weatherization subrecipients observe. Priority is given to:

- Low-income elderly clients (age 60 or over)
- Low-income clients with disabilities (any individual who has a physical or mental disability which constitutes or results in a substantial handicap to the individual's employment; or a person who

has a record of having, or is regarded as having, a physical or mental impairment which substantially limits one or more of the individual's major life activities; or someone who has a disability which would make the individual eligible to receive disability insurance benefits or supplemental security income from the Social Security Administration or developmentally disabled assistance from the Department of Health and Human Services)

- Low-income families with children 18 years of age or under

If applicants are not elderly, disabled, or members of families with children 18 years old or under, they may also be prioritized if they qualify as high residential energy users or a household with a high energy burden. Clients are given the option, but are not required, to provide energy-related utility bills for intake staff to calculate the household's energy usage and burden.

High energy users are households who's previous 12-month energy use exceeds 100 MCF of natural gas or 14,000 kWh for electricity or 800 gallons of propane.

High energy burden households are households where overall annual energy costs are equal to or greater than 15% of the household's annual income. The same 12-month period for determining income eligibility and annual energy bills will be used when calculating burden.

Weatherization Subrecipients are sensitive to the issues of high-energy burden and high residential fuel usage. The State of Kansas continues to explore ways to establish these categories for use in identifying priorities, however consistently and efficiently obtaining utility bill information from the numerous investor-owned, cooperative, and municipal utilities across the state remains a programmatic barrier and client application hurdle.

Emergencies may take precedence over all other priorities. Emergencies are defined as life-threatening housing conditions and shall be documented in the client file.

The timing of service to an applicant that is in a priority category may be set so services can be coordinated with another funding source.

Local agencies are required to serve their entire geographic area. Each county shall receive, at a minimum, service once every two years. Agencies are required to base service distribution on low-income population density and need to the fullest extent possible.

2.2.9 Outreach to Eligible Clients

Local agencies may use a variety of outreach methods, including:

- Informing organizations or advocacy groups that have a special interest in, or regular contact with, persons characterized above. (Area Agencies on Aging, Dept. of Children and Families, homeless shelters, public housing authorities, etc.)
- Arranging for applications to be taken by, or at the site of, those organizations or advocacy groups.
- Placing multi-lingual posters and materials describing the program in public areas and buildings.
- Media advertising including placing TV and radio ads to reach people who cannot read and those with limited English skills.
- Providing interpreters for non-English speaking applicants or applicants with communications handicaps.

- Working with energy providers to provide customers with program information.

2.2.10 Determining Building Eligibility

Every dwelling unit weatherized must meet both the client eligibility and the building eligibility requirements.

Structures will be assessed for compliance with the State Historic Preservation Office (SHPO) Programmatic Agreement. Weatherization services or select measures may not be eligible on certain homes as identified by a Section 106 review.

Structures will be assessed to ensure that weatherization measures will be effective before the expenditure of grant funds. The expected lifetime of measures and their benefit will be taken into consideration when assessing structure eligibility. Conditions which constitute such limitations may include, but are not limited to:

- If remodeling or rehabilitation of the property (either planned or in progress) is substantial enough to degrade the effectiveness of weatherization.
- If the conditions of structural or mechanical systems of the home are such that it is not safe and possible to install or complete core measures, i.e., furnace safety and efficiency inspections and repair, blower door guided envelope air sealing, insulation.
- If it is not possible to improve the condition of the structure sufficiently to allow the installation of the core measures with the allowable contribution for incidental repair, or with coordinated rehabilitation funding.
- If, at a minimum, health and safety items cannot be addressed.

If conditions exist which preclude the weatherization of the structure, a brief written description of the conditions should be supplied to the client. This notification should be coupled with the notification that weatherization assistance is postponed or deferred until such time that the problem conditions have been resolved. The agency should inform the client of a "reasonable" amount of time for the resolution of the problem conditions. See Deferral Policy section.

2.2.11 Ineligible Units

No weatherization grant funds shall be used for the following:

- To weatherize a dwelling unit which is condemned, scheduled for demolition, or designated for acquisition or clearance by a Federal, State, or local program within twelve months from the date weatherization of the dwelling unit would be scheduled to be completed. Subrecipients must check with city or county authorities or the City Health Department for condemnation proceedings. The Kansas Department of Transportation may also be a source of information regarding possible condemnation through right-of-way condemnation procedures.
- To install or otherwise provide weatherization materials for a dwelling unit previously weatherized within the past 15 years; see Reweatherization section. Except: That such dwelling unit has been damaged by fire, flood or act of God and repair of the damage to weatherization materials is not paid for by insurance. See section 1.4.10 LIEAP Heating /Cooling Repair or Replacement for additional exceptions.
- No owner-occupied residence shall be weatherized if it is being offered for sale.

- No renter-occupied residence shall be weatherized if it is being offered for sale, unless both of the following apply:
    - It can be demonstrated that the residence will continue to be occupied by eligible tenants.
    - Weatherization work performed is not incorporated into the sale price.

2.2.12 Non-Traditional Dwellings Eligibility

Subrecipients will exercise caution in dealing with non-traditional type dwelling units to ensure that they meet Program regulations on whether the unit is, in fact, eligible. The weatherization of non-stationary campers and trailers that do not have a mailing address associated with the eligible applicants is not allowed. The use of a post office box for non-stationary campers or trailers does not meet this requirement.

2.2.13 Reweatherization

No dwelling unit may be weatherized (1) which is designated for acquisition or clearance by a federal, state, or local program within 12 months from the date weatherization would be scheduled to be completed; or (2) which has been weatherized with any federal "weatherization" sources (DOE, LIEAP) in the past rolling 15 years. An exception is allowable for a unit, which has been weatherized in the previous 15 years, if it has been damaged by fire, flood or act of God and repair of the damage to weatherization materials was not covered by insurance or for LPHCRR. Historical WMS and Hancock records will be referenced for previous weatherization activity when determining household eligibility. All reweatherized units must meet current weatherization standards on completion.

Reweatherized units will be reported in Hancock and will have both the reweatherization checkbox checked and the "job type" changed to reweatherization on the Audit Information Screen.

2.2.14 Eligible Rental Units:

Renter occupied housing units are eligible for weatherization services if they meet all other eligibility requirements. Signed permission from the owner, or authorized agent, of each eligible dwelling unit must be obtained and documented in the client file prior to performing any inspections, tests, or weatherization measures on a dwelling. Rent to own and contract for deed arrangements shall be considered rental properties.

KWAP does not require landlord contributions to provide weatherization services. However, funding restrictions (i.e. furnace price caps, excessive health and safety or incidental repairs, or other funding limitations) may require a landlord contribution to allow comprehensive weatherization work to proceed. Landlord contributions should be sought for the weatherization of multifamily complexes to maximize the benefits to the low-income clients and to stretch limited WAP funding, when feasible.

In compliance with 10 CFR 440.22, the following procedures shall be used in the weatherization of rental dwellings:

- Subrecipients shall use the financial assistance guidelines for dwelling units to determine eligibility.
- Subrecipients shall obtain a signed agreement (Landlord Permission Form) from the owner/landlord of the building or his designated agent authorizing the work to be done and, if applicable, agreeing to the landlord's financial participation in weatherization costs.

Subrecipients should develop a detailed description of the weatherization measures authorized and costs assigned to the landlord and the agency. Rents shall not be raised solely due to the weatherization assistance provided under this part. The agreement shall include a provision that the landlord agrees not to raise the rent for at least one year from the time the work is completed, unless raising the rent is based on factors unrelated to the weatherization improvements. The client shall be provided a copy of the signed agreement. The KWAP will not use a lien on landlord property.

- To weatherize an entire multi-family building, the building must have at least 66 percent program eligibility rate (50 percent duplex or four-plex) including those units that will become eligible within 180 days under a Federal, State or local government program for rehabilitating the building or making similar improvements to the building. On a case-by-case basis, with prior approval from DOE, certain eligible types of large multi-family buildings may be eligible for weatherization if as few as 50 percent of the units were certified as eligible for weatherization. This exception applies only to those large multi-family buildings where an investment of DOE funds would result in significant energy-efficiency improvement because of the upgrades to equipment, energy systems, common space, or the building shell.
- The maximum amount of grant funds which can be spent for weatherization is determined the same way as in single-family owner-occupied units, which is by managing the average cost per unit. For reporting purposes, all units receiving weatherization must be reported as "completed units."
- Approved measures that are applicable to multi-family units should be assessed, prioritized, and implemented in an energy savings/cost effective manner appropriate to the particular building.
- A building which is totally vacant may be weatherized only in conjunction with a Federally funded rehabilitation project, and with the assurance that at least 66 percent of the units will be leased to income eligible tenants. If the building is partially occupied, vacant units may be weatherized if 66 percent of the total units are occupied by eligible tenants.
- No undue or excessive enhancements shall accrue to the value of weatherized dwelling units in Kansas. Weatherization measures to be completed on rental units, as on owner units, must be cost-effective, as determined by an individualized WAweb audit. The State may recoup costs of excessive weatherization measures.
- Subrecipients shall document how the benefits of weatherization services accrue primarily to the low-income tenants residing in the rental unit if the tenants do not directly pay their own primary heating bill. Examples and guidance can be found in WPN 22-12.
- Subrecipients shall include in their rental agreements the address and telephone number of the Legal Aid Society office(s) serving their areas, as well as a Statement that Legal Aid is responsible for arbitrating landlord-tenant disagreements arising from weatherization activities completed on the units.
- Shelters are eligible for weatherization activities, as follows:
    - "Shelter" is defined as a dwelling unit or units whose principal purpose is to house on a temporary basis, individuals who may or may not be related to one another and who are not living in nursing homes, prisons, or similar institutional care facilities.
    - For the purpose of determining how many dwelling units exist in a shelter, the minimum size for each dwelling unit within the shelter shall be 800 square feet of living space, or each floor of the shelter may be counted as a dwelling unit.

2.2.15 Historic Preservation Review

In accordance with the Programmatic Agreement between DOE and State Historic Preservation Office (SHPO) and Section 106 of the National Historic Preservation Act, 16 U.S. C 470F and 36 CFR part 800, weatherization will follow the following guidelines when applying measures to wall insulation and window repair or replacement.

Whereas the projects funded are subject to review under Section 106 of the National Historic Preservation Act, 16 U.S. C 470F (NHPA) and its implementing regulations at 36 CFR part 800 and include rehabilitation, energy efficiency retrofits, renewables and weatherization undertakings, the following guidelines have been set forth for any structure listed or eligible for listing on the National Historic Register.

2.2.15.1 Wall insulation

Insulation will not result in noticeable holes on the exterior.

Remove siding to blow insulation and replace siding. Cause no visible damage during removal, blowing insulation, capping holes, and replacing siding.

Wood siding can be drilled to install insulation, but the holes must be plugged with a wood plug, sealed in place, sanded smooth and repainted with matching paint. Plugs cannot be visible.

Cellulose insulation which uses aluminum or ammonium sulfate as the fire retardant cannot be used. (Cellulose treated with boric acid as the fire retardant is approved.)

Interior paint must offer/work as a vapor barrier at all interior surfaces/walls containing the newly blown insulation. Interior paint can be client applied to the near paint ready patch per the SWS Field Guide. Final inspection can proceed prior to the client's completion of interior paint.

Insulation installed under a new siding is not permitted if it covers architectural features. (No siding and insulation overlay replacement allowed.)

Attaching insulation to the inside, framed out with firing strips is not allowed if it covers original features such as cornices, chair rails, window trims, or if it causes the destruction of historical plaster or other wall finishes.

Following manufacturer's instructions for installing insulation with appropriate fireproofing, rigid foam insulation must be covered by appropriate fireproof covering (1/2" gypsum wallboard). The insulation is not to be left exposed. Note – Rim and band insulation does not require the gypsum wallboard.

2.2.15.2 Blown from the inside

Must not damage historical plaster or other wall finishes.

Must follow KDHE Lead Based Paint guidelines.

Must be refinished (not seen when complete). Interior paint can be client applied to the near paint ready patch per the SWS Field Guide. Final inspection can proceed prior to the client's completion of the interior paint.

2.2.15.3 Windows

Replacement windows can only be installed with the approval of SHPO if the home is more than 50 years old.

Installation of storm windows that would obscure historical windows requires SHPO approval if the home is more than 50 years old.

Damaged windows should not be boarded over without SHPO approval if the home is more than 50 years old.

2.2.15.4 Doors

Exterior door replacement can only be performed with the approval of SHPO if the home is more than 50 years old.

2.2.15.5 Roofs

Roof replacement can only be performed with the approval of SHPO. Repair of minor roof and wall leaks prior to insulating attics or walls, provided repairs closely resemble existing surface composite remain exempt from SHPO approval if the home is more than 50 years old.

2.3 Required Client File Documentation

Client files serve as a record and timeline for all information pertaining to each individual weatherization job. Each subrecipient may have slightly different structures and pieces of information, however each file must have certain eligibility and procedural documents. If electronic records are kept of certain documents, the client file must contain instructions on how and where to locate the documents. Completely electronic records may be kept as long as all information is in one individualized folder clearly identifying it for the job.

Local agencies are encouraged to adopt client file checklists to ensure all required documents are available for each job. A sample checklist of all KWAP required documents can be found on KHRC's SharePoint Site

Documentation for each completed client file must contain:

- Client Application for weatherization assistance
- Signed permission from the owner, or authorized agent, must be obtained and documented in the client file prior to performing any inspections, tests, or weatherization measures on a dwelling
- Signed Landlord Permission Form, if applicable
- Signed Eligibility Certification Statement (US citizen/Qualified Alien Statement)
- Signed documentation informing the client of their Right to Appeal
- An owner signed Statement granting or denying KWAP to drill to inspect or add insulation
- Signed Fuel Information Release Form
- A client housing questionnaire asking questions about the structure
- Proof of home ownership (can be in form of county appraiser website documentation, deed, tax statement or bill, or title for manufactured homes)
- Client income documentation

- Subrecipient income verification worksheet with the name of the person performing the income eligibility calculation.
- Pre-Inspection home inspection form
- Pre-Inspection Combustion Appliance Forms (furnace, water heater, and all other combustion appliances)
- Inspector signed Mold Assessment Form
- Signed Lead Pamphlet Declaration
- Client signed Radon Informed Consent Form
- Client signed Wx Maintenance Recommendations and Client Education Form
- Occupant Pre-Existing or Potential Health Conditions Release
- Hazard Identification and Notification Form
- Client signed Unvented Heater Removal Permission Form- if applicable
- WAweb Recommended Measures Report
- Project Work Order
- Exterior Pictures- four photos minimum (at least one per side).
- Year of home construction and State Historic Preservation Office (SHPO) approval if applicable
- ASHRAE 62.2-2016 calculation recommended for all jobs, required for DOE jobs. ASHRAE 62-1989 (BTL) calculation required for LIEAP jobs when not using ASHRAE 62.2-2016.
- Final inspection with client's signature and date stating that all work has been satisfactorily completed.
- Final Inspection checklist with final inspector's printed name, signature, QCI certification number (BPI/AEE ID #), and date. The final inspection statement shall read, "I certify that all work has been satisfactorily completed in accordance to the Kansas SWS Field Guide and that I have reviewed the energy audit and confirm the accuracy of the field site data collection, energy audit software inputs, and that all measures called for on the work order are appropriate and in accordance with KWAP procedures."
- Final inspection combustion appliance forms (furnace, water heater, and all other combustion appliances)
- Worst Case Combustion Draft Test results, if applicable
- Post ASHRAE 62.2-2016 flow verification, if applicable
- Rework Form with client and final inspector signatures and dates stating that all work has been satisfactorily completed, if applicable
- Job invoices and material usage forms verifying cost and materials
- Lead Safe Work Practices Declaration with Certified Renovator's signature
- Completed Hancock Export Job Report
- Hancock Installed Measures List per job

2.4 INSPECTION GUIDELINES

2.4.1 Auditor/Inspector Training and Certification Requirements

Since 1995, the Kansas Weatherization Assistance Program has maintained an Inspector Training and Certification Program for all individuals who conduct pre- or post-weatherization inspections. In 2015, the Quality Control Inspector (QCI) certification became a requirement for all post inspectors working in

the DOE funded Weatherization Program. Beginning in 2018, a multitrack, tiered training and certification scheme was introduced.

Training for auditors and inspectors is essential for sound decision-making in the field, even when aided by a decision-making tool like WAweb. Auditors must understand how to accurately measure, describe, diagnose, and evaluate the energy features of a house. They must also understand what improvement measures are effective and appropriate, and how those improvement measures may affect potential health and safety hazards in the house.

Training is provided through a combination of field, classroom, and online training. Competency is accessed through written and field testing, and by obtaining and maintaining industry certifications.

2.4.1.1 New Auditor Training and Certification

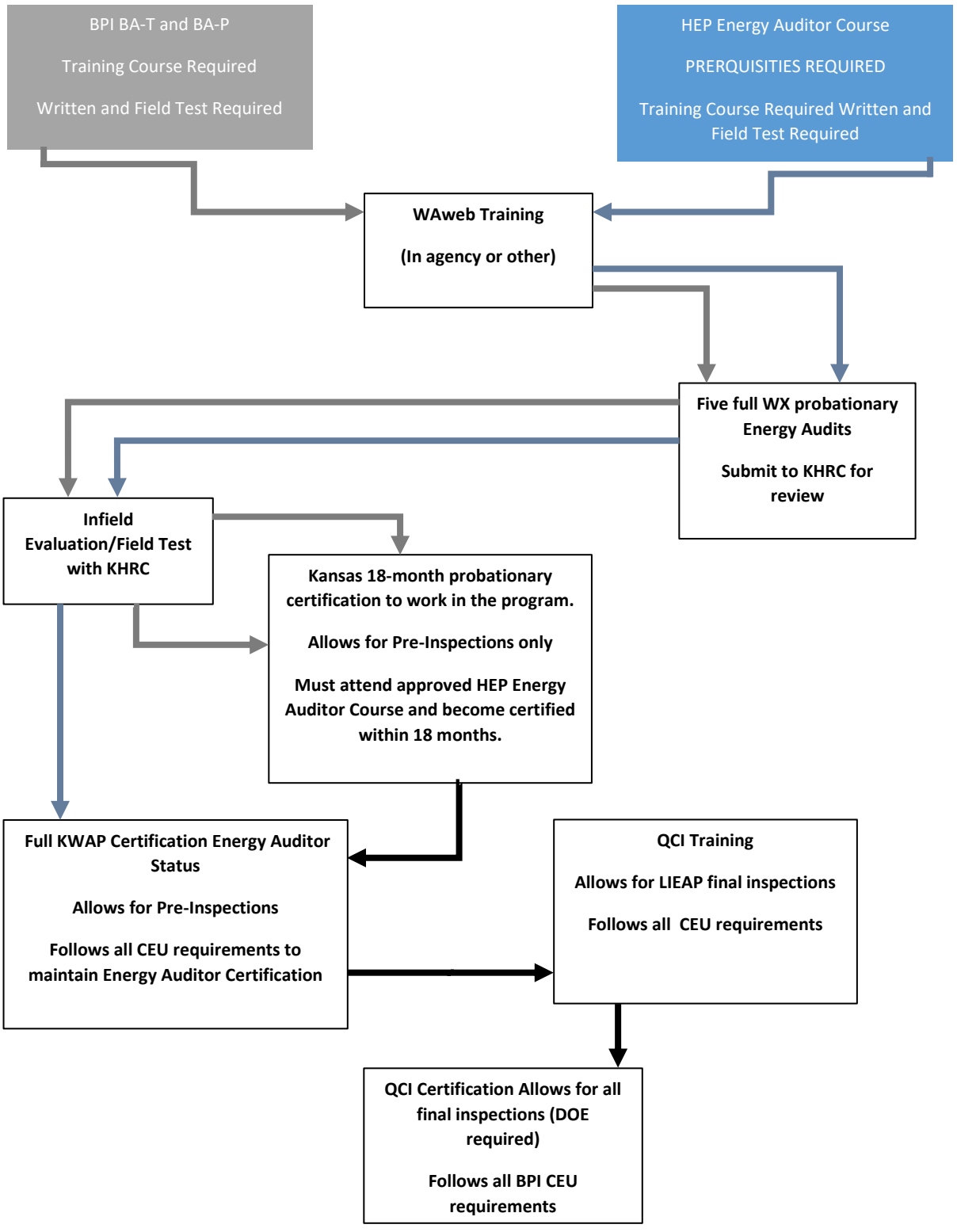
To allow the onboarding of new auditors into the weatherization workforce, a multi-track training and certification scheme has been developed. Additionally, a list of recommended and required training courses is provided to help ensure individuals receive exposure to pertinent resources and skill sets to help them be successful. See: Onboarding Plan for Auditors, Proof of Self Certification of Wx Training, and the Suggested Onboarding Training Plan Template available on the WAP SharePoint site.

The options and diagram below outline the two different training tracks a new auditor can follow. These options allow for greater flexibility than historically available while still maintaining quality and accountability. All uncertified employees must be under the direct supervision of a certified weatherization auditor/inspector until they pass the Kansas Weatherization Infield Evaluation with a KHRC representative. Comprehensive training is occupation-specific training which is part of an overall curriculum aligned with the topics within the given JTA being trained. Comprehensive training must be administered by, or in cooperation with, a training program that is accredited by a DOE-accepted credentialing body for the JTA being taught

Track A: BPI's Building Analyst Technician (BA-T) and Building Analyst Professional (BA-P) training and certification. Individuals take both the BA-T and BA-P aligned training courses and must successfully pass the written and field-testing components to become certified BA-Ts and BA-Ps. Additional WAweb software training is required and the successful approval of five (5) weatherization probationary energy audits must be completed before scheduling the infield evaluation component with KHRC.

Track B: DOE-accepted credentialing body's Home Energy Professional Energy Auditor training and certification. Individuals must meet DOE-accepted credentialing body's prerequisites to challenge the Energy Auditor Exam. Once DOE-accepted credentialing body's approval is obtained, individuals take a DOE-accepted credentialing body Energy Auditor aligned training course and successfully pass the written and field-testing components to become a certified Energy Auditor. Additional WAweb software training is required and the successful approval of five (5) weatherization probationary energy audits must be completed before scheduling the infield evaluation component with KHRC.

Kansas Weatherization Certifications



Individuals coming into the weatherization program with BPI, AEE, or RESNET Rater Certifications, regardless of where they obtained the certification, will be assessed on a case-by-case basis to determine additional training needs.

All auditor certification classes, except software training, include both classroom and field components and a performance exam. Upon successful completion of the training components, auditor candidates are required to submit five probationary weatherization audits to KHRC for review. Each of these probationary audits must include the items listed below and any additional information requested for a thorough review. Upon successful completion of the five sample audits, auditor candidates complete an infield evaluation to demonstrate competency in the entire weatherization auditing process ranging from client interview to the final results of the WAweb energy audit and weatherization work order. Successful candidates completing track A receive an 18-month probationary certification allowing them to conduct initial energy audits independently. Within 18 months individuals must obtain certification status by obtaining the HEP Energy Auditor Certification. Candidates who are on track B, who have already received the HEP Energy Auditor Certification are fully certified and allowed to conduct initial energy audits independently.

2.4.1.1.1 Probationary Audit Documentation Requirements

Probationary Energy Audits are submitted one at a time to KHRC for review. KHRC will review and respond to candidates within 30 days of full submission. Probationary homes can be non-weatherization homes where the candidate is practicing, or they can be actual weatherization client homes that are audited in the presence of a certified auditor/inspector that is overseeing the work and is also signing off on the inspection forms. Uncertified individuals are not allowed to work independently in actual client homes. The following items make up a full probationary submission:

- Inspection form plus sketch page, with dimensions, and notes
- Photos showing:
    - Each of the 4 exterior sides
    - Window type examples (provide a photo for each existing type if not all the same)
    - Door example (provide a photo for each existing type if not all the same)
    - HVAC equipment (Data plate info for furnace and A/C, or other HVAC equipment)
    - Water heater data plate
    - Appliance data (Refrigerator, range, dryer)
    - Photo document field test results and equipment setup (blower door, flow hood, etc.)
    - Any unusual features of the house
    - Any work that will be ran through the energy audit as an incidental repair
- Completed Combustion appliance forms
- ASHRAE 62-16 spreadsheet with calculations and BTL spreadsheet with calculations
- Appliance / equipment energy ratings and source documents
- WAweb Audit
- Recommended Measures Report
- Measure list / Work scope
- Any other information necessary to provide a complete understanding of existing conditions and proposed measures.

2.4.1.2 Auditor/Inspector Training

Weatherization auditors are those individuals who only conduct initial energy audits. Weatherization inspectors are those individuals who conduct both initial energy audits and post weatherization inspections.

Auditors and inspectors will receive training in accordance with WPN 22-4. Training activities for WAP field staff are to be designed as Comprehensive or Specific training. Comprehensive training is occupation specific training which is part of an overall curriculum aligned with the topics within the given JTA being trained. Comprehensive training must be administered by, or in cooperation with, a training program that is accredited by a DOE-accepted credentialing body for the JTA being taught. . Specific training is single issue or issue specific, short-term training to address specific skills or knowledge gaps. Conference training and any training not aligned with a JTA are included in this category.

WAP field staff are only those technical staff members directly employed by Grantee and Subrecipient agencies, such as auditors, agency crew members, and inspectors. Contractors and contract auditors and inspectors are not explicitly included but may be eligible for T&TA funded training as long as a retention agreement is obtained. Contracted installers are not to be considered part of WAP field staff for the purpose of targeted T&TA activities.

Comprehensive training will be closely aligned with credentialing requirements for the given task (i.e. energy auditor, QCI, multifamily QCI). Auditor and inspector training will be based on a five-year training cycle. Individualized training plans will be allowed to be structured in the manner best suited for each agency, but most plans will focus on receiving intensive 1-2-week training every five years. This timetable is consistent and conducive to receiving intensive training in anticipation of re-certifications exams. Specific training will be obtained on an as-needed basis and on a rolling basis to fulfill DOE-accepted credentialing body certification CEU requirements.

Comprehensive training must be provided by a DOE approved accredited training program. Training will be provided by the contracted training provider in the manner best suited for the situation and can be a hybrid of distance learning and/or in-person training.

Specific training will be provided on an as-needed basis. The specific need and technical expertise required will determine the training provider. State technical staff, state and national training providers, or network partners can provide specialized and short-term training. Attendance in specialized training is mandatory as announced. Non-compliance may result in elevated risk status, state certification suspension, or termination.

2.4.1.3 Auditor/Inspector Certifications

KWAP auditors are required to obtain, and maintain, their DOE-accepted credentialing body Energy Auditor Certification and receive comprehensive JTA aligned training every five years.

The DOE grant requires that KWAP post inspectors obtain, and maintain, their DOE-accepted credentialing body Quality Control Inspector (QCI) Certification and receive comprehensive JTA aligned training every five years. Only QCI certified individuals may conduct DOE funded final inspections.

Individuals signing off on DOE funded multifamily work must have a QCI certification and must have completed a specific training program based on the NREL Multifamily QCI JTA.

To allow increased flexibility, KWAP allows subrecipient employed, KWAP certified individuals who have a HEP Energy Auditor certification to conduct LIEAP funded final inspections. Success on the written exam and QCI certification is preferred but not required for LIEAP. Temporary field waivers to this LIEAP requirement may be granted by KHRC in special circumstances by request in writing.

In addition to the DOE-accepted credentialing body certifications, individuals are required to maintain their Kansas Weatherization Assistance Program (KWAP) Certification. This certification will be based on a five-year cycle and will be aligned with the individual's DOE-accepted credentialing body's Energy Auditor certification. An 18-month probationary KWAP certification is available to candidates who have completed training tracks A and B. (see section 2.4.1.1) The KWAP Certification allows individuals to work independently within the Kansas Weatherization Program.

All DOE-accepted credentialing body certified auditors and inspectors working within KWAP must maintain a valid copy of their certifications with KHRC.

All KWAP field staff must obtain, and maintain, KDHE's Certified Renovator (RRP) certification or other acceptable certification. Acceptable certifications include KDHE's: Lead Abatement Worker, Lead Abatement Supervisor, Risk Assessor, and Lead Inspector.

All KWAP field staff must obtain OSHA-10 (or higher) certification. See 3.3.20 for more information.

2.4.1.4 KWAP Certification Suspension or Termination

The KWAP certification will be suspended or terminated when individuals lapse in either their comprehensive training plans or DOE-accepted credentialing body HEP certifications. KWAP certification may be suspended or terminated if state specified mandatory trainings are not completed.

Individuals found not upholding the high quality of work expectations and standards of the KWAP program will be notified in writing and their employer notified. For minor infractions, a written warning shall be provided. For larger or reoccurring infractions, a corrective action plan will be required to be developed and implemented and will be tracked to resolution. Failure to fulfill the corrective action plan will result in suspension or termination of the KWAP Certification.

2.4.1.5 Crew Member Training (Agency Employed Staff)

Agency employed crew members will receive training in accordance with WPN 22-4. Training activities for WAP field staff are to be designed as Comprehensive) or specific training. Comprehensive training is comprehensive, occupation specific training which follows the curriculum aligned with the Job Task Analysis (JTA) for that occupation. Specific training is issue-specific, short-term training to address specific skills or tasks.

Comprehensive training for crew based Retrofit Installer/Technician and Crew Leaders will be provided to agency employed crew members within 18 months of hire and within every 5 years thereafter. There are no Retrofit Install/Technician or Crew Leader testing or certification requirements at this time.

2.4.2 Inspection Guidance

The following sections provide specific guidance on pre and post inspection policies, protocols, and guidance. Additional topics are covered in the FAQ section on the WAP SharePoint site.

Pre-inspection data collection forms must contain all information necessary to generate the WAweb building file. Minimum data collection elements are provided in the FAQ section on the WAP SharePoint site.

2.4.2.1 Attic Ventilation

Many of the homes weatherization will encounter will have inadequate attic ventilation. The requirement for attic ventilation is commonly a building code requirement and inadequate attic ventilation would be considered an existing code compliance issue. Weatherization has no requirement and is not equipped to correct existing code compliance issues.

However, if and where the local code is triggered and requires code compliance because of a weatherization activity, weatherization will install attic ventilation to become code compliant. Follow all code requirements when triggered. When the roof venting requirement is triggered, agencies shall document in the client file the actual code that was triggered and what weatherization activity triggered the code/permit.

Additional attic ventilation is allowable if the auditor makes and documents the determination that additional ventilation is needed for the attic to function properly. Attic ventilation may be an IRM when protecting and preserving an installed ECM, typically attic insulation. In some situations, the installation of attic ventilation may be an HSM when documented issues exist from inadequate attic ventilation (i.e., removal of moisture, prevention of ice damming, etc.).

Installing attic ventilation (roof vents or gable vents) to facilitate access to the attic or to aid in blowing insulation is allowable as an ancillary cost and the audit/work order shall explain the purpose of installation. See Ancillary Items and Incidental Repair Measures (IRM).

2.4.2.2 Framed Floors over Enclosed Foundations

Enclosed foundations require many considerations to determine whether they should be conditioned, nonconditioned, vented nonconditioned, or unintentionally conditioned. The height of foundation spaces will be measured from the floor/ground to the bottom of the framed floor joist.

Crawlspaces are those foundations that are enclosed and, generally, have a height less than 5 feet. Crawlspaces typically have dirt floors. The area/volume of a crawlspace will never be included in the conditioned floor area or conditioned volume.

Basements generally have a height of 5 feet or greater. Their volume and area can be included in the conditioned volume/floor area if the space is conditioned (either intentionally or unintentionally). Basements that are unconditioned can be included in the conditioned area and volume if they are regularly used by the occupants and show connection to the main home (may be verified through pressure diagnostics).

When an enclosed foundation space is actively heated or cooled (having supply registers) it will be considered conditioned. In a conditioned foundation space, the foundation wall is where the thermal-pressure boundary is located. Proposed measures typically include insulating the foundation wall, insulating the sillbox, and hatch treatments.

When an enclosed foundation space has uninsulated ductwork, a furnace, or other mechanical equipment unintentionally conditioning the space, it should be considered unintentionally conditioned.

In this situation, the thermal-pressure boundary is the foundation wall. Addressing this space typically includes insulating the foundation wall, insulating the sillbox, and hatch treatments.

When no uninsulated ductwork, furnaces, or other mechanical equipment which would unintentionally condition the space is present, the enclosed foundation space should be considered unconditioned. When unconditioned and vents are present and open to the outdoors, the enclosed foundation space should be considered vented unconditioned. It is allowable to bring unconditioned crawlspaces within the thermal boundary. In these scenarios, the auditor must determine if the framed floor or foundation walls are more appropriate as the thermal/pressure boundary (i.e. existing moisture issues, more cost effective). Addressing the floor as the thermal boundary typically includes air sealing the framed floor, insulating the framed floor, and insulating waterlines.

In some homes, the local building code or other considerations do not allow KWAP to address the foundation walls of crawlspaces. In these situations, the foundation space shall be considered unconditioned and the framed floor over the crawlspace may be addressed as the thermal boundary and air sealed and insulated if approved as an ECM. Any ductwork and water lines in the crawlspace must be considered when effectively moving the thermal boundary to the floor. Any cost of insulating water lines must be included with the cost of the floor insulation and audit approved. Insulating water lines outside the thermal boundary can be addressed as a GHW item up to $250.

2.4.2.3 Carbon Monoxide (CO)

Ambient CO will be monitored during combustion testing and testing will be discontinued if ambient CO level inside the home or workspace exceeds 35 parts per million (ppm). The following measures should be taken in the event this should happen. From ANSI/BPI 1200 7.3.3

If the CO instrument indicates an ambient CO level of 70 ppm or greater, the auditor shall immediately terminate the inspection and notify the homeowner/occupant of the need for all building occupants to evacuate the building. The auditor shall immediately leave the building and the appropriate emergency services shall be notified from outside the home.

If the CO instrument indicates an ambient CO reading in the range of 36 ppm-69 ppm, the auditor shall advise the homeowner/occupant that elevated levels of ambient CO have been detected. Windows and doors shall be opened. The auditor shall recommend that all possible sources of CO be turned off immediately. Where it appears that the source of CO is a permanently installed appliance, the auditor shall recommend that the appliance be turned off and the homeowner/occupant shall be advised to contact a qualified professional.

If the CO instrument indicates an ambient CO reading in the range of 9 ppm-35 ppm, the auditor shall advise the homeowner/occupant that CO has been detected and recommend that all possible sources of CO be checked and windows and doors opened. Where it appears that the source of CO is a permanently installed appliance, the homeowner/occupant shall be advised to contact a qualified professional.

If CO levels in interior living spaces exceed outdoor levels, potential sources will be investigated and appropriate action taken to reduce them (e.g., have a qualified professional tune, repair, or replace improperly operating combustion appliances; apply weather stripping or conduct air sealing between the garage or crawl space and the home).

Personal, worn, CO monitors are safety devices and can be used for monitoring background ambient CO levels. Combustion analyzers and/or dedicated CO measuring devices should be used when taking CO readings for both ambient and flue gas readings.

2.4.2.4 Raw Fuel/Exterior Gas Leak

Raw fuels leaks will be monitored before entering building spaces. If leaks are found, occupants will be notified. If significant or dangerous leaks are identified, testing will be discontinued.

2.4.2.5 Insulation Values and Grades

While R-values and insulation grades can vary, the following standard assumptions shall be used unless otherwise documented in the client file.

- Insulated 2x4 cavities have the following R values
    - Before 1970 R9
    - 1970-1995 R11
    - 1995 to present R13.
- Fully insulated 2x6 cavities have an R-value of R-19.
- Mobile homes prior to 1976 likely have 2x2 or 2x3 wall framing and have an R-value of R-7

2.4.3 Windows and Doors

2.4.3.1 Windows

2.4.3.1.1 Primary Window Assessment

1. All existing operable windows must remain operable.
2. Non-operable windows may be permanently sealed against air leakage if agreed and documented to by the client. Note that each room must have two forms of egress in place.
3. Window work on pre-1978 houses must be performed using lead safe work practices.

Window Air Leakage: Window air tightening measures such as caulking, glazing, weather stripping, sash locks, or glass replacement are considered air sealing measures. The weatherize window box will not be used.

Window Repairs:

1. When feasible, windows must be repaired, rather than replaced.
2. Replace missing, broken, and severely cracked panes.
3. Window glazing compound shall only be replaced if the existing glazing is deteriorated to the degree that the window glass is in jeopardy of falling out of the sash. Caulking of loose panes of glass from the interior is recommended if existing storm windows are present.

Window Replacements:

1. Window replacements must be based primarily on an energy-saving decision process rather than on client requests, aesthetics, or ease of use.
2. Replacement of windows must be justified by the energy audit.
3. Replacement of primary windows not yielding an SIR greater than 1.0 may be considered if they are deteriorated beyond air sealing repairs. Photo documentation clearly showing that the

existing window is beyond repair must be present in the client file. Windows beyond repair may be replaced as an IRM if it can be justified to preserve or protect an installed ECM. Where windows are beyond repair and are not cost effective, supplemental funding may be utilized with KHRC approval. These windows shall be reported in Hancock as a standalone measure and must include a note stating beyond repair, or other similar justification, and state that the SIR is below 1.0 and a waiver has been provided.

2.4.3.1.2 Storm Windows

1. When feasible, existing storm windows may be repaired as air sealing.
2. Replace missing, broken, and severely cracked panes as an air sealing measure.
3. Weep holes are not to be sealed shut.
4. Installation of storm windows must be justified by the energy audit.
5. Repaired or installed storm windows must be installed with appropriate exterior-grade fasteners.

2.4.3.2 Doors

2.4.3.2.1 Exterior Door Assessment

1. Exterior doors must be assessed for needed repairs, air leaks, and comfort related problems.
2. All existing egress doors must remain operable.
3. Non-operable, non-egress doors may be permanently sealed against air leakage if agreed to by the client.
4. Door work on pre-1978 houses must be performed using lead-safe weatherization procedures.

Door Air Leakage: Door air tightening measures such as weather stripping, sweeps, door bottoms, or thresholds are considered air sealing measures and must be based on visible inspection or blower door detection.

Door Repairs:

1. When feasible, a door must be repaired rather than replaced.
2. Door adjustments or repairs such as door stops, shaving/fitting, striker plate adjustment or replacement, door reinforcement plates, or locksets can all help a door obtain and maintain minimal air leakage.

Exterior Door Replacements:

1. Door replacements must be based primarily on an energy-saving decision process rather than on client requests or aesthetics.
2. Individual replacement doors may only be installed if the cost of the door, and all associated components, is justified by the energy audit.
3. Replacement of exterior doors not yielding an SIR greater than 1.0 may be considered if they are deteriorated beyond air sealing repairs. Photo documentation clearly showing that the existing door is beyond repair must be present in the client file. Doors beyond repair may be an IRM if justified to preserve or protect an installed ECM. Where doors are beyond repair, supplemental funding may be utilized with KHRC approval. These doors shall be reported in Hancock as a

standalone measure and must include a note stating beyond repair, or other similar justification, and state that the SIR is below 1.0 and a waiver has been provided.

2.4.3.2.2 Storm doors

The repair or replacement of storm doors is not permitted.

2.4.4 Mechanical Systems and Other Space Heating Systems

2.4.4.1 Mechanical Equipment Inspections

All mechanical systems, i.e., furnaces, HVAC, water heaters, will be assessed at both the initial audit and at the post inspection. The most recently approved mechanical inspection forms available at http://www.kshousingcorp.org/more-program-information.aspx will be utilized to record and document the results.

Separate mechanical inspections forms will be used for pre- and post-inspections. Separate mechanical forms will be used for each mechanical system. All mechanical systems in the home will be inspected.

Mechanical inspection forms will clearly identify the individual conducting the inspection and the date it was performed.

Mechanical equipment forms will collect brand, model, and serial number of equipment. Equipment shall be modeled to reflect published efficiency usage as identified by the model number. The following estimations and assumptions can be used when published data is unavailable:

- Atmospheric Drafting Forced Air Furnace- 65% AFUE
- Fan Assisted Forced Air Furnace – 80% AFUE
- Sealed Combustion Forced Air Furnace – 92% AFUE
- Floor Furnace – 65% AFUE
- Wall Unit- Gravity Flow- 70%-72% AFUE
- Wall Unit- Blower – 74%-76% AFUE
- Wall Unit- Direct Vent- 76% AFUE
- Console Unit- Gravity Flow- 70-72% AFUE
- Console Unit- Blower- 74%-76% AFUE
- Console- Direct Vent- 80% AFUE
- Unvented Combustion Space Heater- 100% AFUE
- Electric Water Heater- 0.91 EF
- Gas/Propane Water Heater- 0.59 EF
- Electric Resistance Space Heaters (forced air, baseboard, portal, etc.)- 100% EF
- Central Forced Air AC – The age from the year of manufacture shall be noted and may be modeled using the Year Manufactured function in WAweb. When a documented age cannot be obtained, try to identify the age of the equipment and use the table below. When age can't not be determined, efficiency assumptions must be conservative. AC degradation is not allowed when actual age is not documented; see below. It is allowable to degrade nameplate data if WAweb's degradation does not align; this procedure shall follow the formula laid out in WPN 23-6 (Degraded Efficiency = Base Efficiency * . 99^{age}, where the Base Efficiency is the nameplate

SEER, EER, or HSPF and Age is the age of the equipment in years as documented by a serial number or other means.).

AC SEER Rating History	
Before 1980	6
1980-1985	7
1986-1991	8
1992-2005	10 to 12
2006 -2014	13
2015+	14

Mechanical systems must be deemed safe before weatherization measures are installed and must be documented as safe at the completion of the weatherization work. This requirement applies year-round regardless of whether the equipment is in use.

Homes without any heating systems will be reviewed on a case-by-case basis by contacting KHRC before weatherization services begin. No home may be left without a permanent heating system if DOE funds will be used; the inability to meet this requirement will result in deferral.

All combustion equipment will be tested with the Combustion Appliance Zone (CAZ) in the worst-case depressurization state. This is required at the initial audit and final inspection and highly encouraged on any day when work has been done that could affect draft (i.e., air sealing, flue work, adding ventilation).

2.4.4.2 Unvented Heaters

Homes heated by unvented combustion space heaters are considered unsafe and shall not be weatherized unless the heaters are removed from the premises, vented to the outside, or replaced with an appropriate heating unit. A secondary or backup unvented heater may be allowed to remain in place and operable if it is labeled as conforming with ANSI Z21.11.2. These secondary units should be tested for high levels of CO and client education on their risk and hazards must be provided. No unvented space heater (primary or secondary) can remain in a manufactured home under any circumstance.

2.4.4.3 Electric Resistance Space Heaters

Electric space heaters are not considered unvented heaters nor are they considered unsafe heating sources for H&S weatherization purposes. No weatherization funds shall be used for the repair or replacement of electric resistance space heaters. Electric resistance heating sources, both forced air and space heaters, should be proposed for ECM replacement with air source heat pumps (ASHP) or cold climate air source heat pumps (ccASHP).

2.4.4.4 Solid-Fuel Space Heaters and Fireplaces

Solid-fuel space heaters include wood stoves, coal stoves, pellet stoves, and fireplaces. Solid-fuel forced air furnaces and boiler systems should be treated as vented heating systems and are not covered here.

Assess solid-fuel space heaters to identify any unsafe installation or operational concerns. Use the KWAP Solid-Fuel Space Heater Inspection Form found on the WAP SharePoint site.

Repair or removal is an allowed H&S measure for primary and secondary solid-fuel heating appliances. Replacement is allowed for primary units only. Flue repair and proper protection of combustibles is allowed for both primary and secondary units. Install replacement primary units and/or flues according

to applicable codes, standards, and manufacturer's specifications. Expenses related to providing adequate combustion air are allowable if determined necessary by diagnostic testing.

Fireplaces can present special hazards that may be affected by weatherization. Fireplaces, as well as all solid-fuel appliances, should be inspected for visual evidence of soot on the walls, mantel, ceiling, or creosote staining near the chimney/flue pipe. These can indicate combustion/drafting issues. Assess whether the fireplace is a primary heating source, a backup heating source, or merely decorative in nature. Operational fireplaces used for primary heating should have the CAZ zone tested under worst case conditions. CAZ depressurization exceeding 5 pascals in the space having the fireplace should have pressure imbalances corrected, additional combustion air added, or the fireplace disabled.

When fireplaces are used, they can create negative pressures throughout the home by principles of the stack effect. When a fireplace is used for primary heating, other combustion appliances, such as gas water heaters, should be tested under simulated worst-case conditions. A blower door can be set to run at 300 CFM (depressurization) to mimic the likely airflow dynamics when the fireplace is in use. All combustion appliances should be able to safely establish and maintain draft under worst case conditions.

2.4.4.5 Mechanical System Repair and Replacement

Mechanical systems will be repaired or replaced as deemed necessary and/or eligible by the energy audit or H&S policies. Combustion mechanical system repair or replacement will be completed prior to installation of other measures. Unsafe primary units must be proposed for replacement in the energy audit to determine if the system can be replaced as an ECM prior to repair or H&S replacement. If the unit does not qualify as an ECM, the unit will be assessed for repair or H&S replacement. If the estimated cost of repairs exceeds $1,000 the piece of equipment shall be replaced. Equipment older than 15 years should be replaced rather than repaired.

Non-functioning primary heating systems will be inspected to the extent possible for H&S issues and possible repair items. Before any repair, non-functioning units will be proposed for replacement in the energy audit to determine if the system can be replaced as an ECM. The name plate efficiency rating shall be used in the audit tool. This logic potentially allows an inefficient, albeit inoperable, unit to be replaced as an ECM before any repair costs are incurred. If the unit does not qualify as an ECM, the unit will be assessed for repair or H&S replacement. If the estimated cost of repairs exceeds $1,000 the piece of equipment shall be replaced. Equipment older than 15 years should be replaced rather than repaired.

Where multiple mechanical systems are present, all systems will be inspected. Repair, or a clean and tune, of multiple systems is allowed. Unless a field waiver is granted, only one primary system shall be replaced.

Replacement or installation of secondary units is not allowed. Unsafe, or non-functioning, secondary heating systems, including unvented space heaters, must be repaired, removed, or rendered inoperable or deferral is required.

Atmospherically drafting forced air furnaces (65% AFUE models) could no longer be manufactured after 1992 making all existing in use units well past their average lifespan of 20 years. As such, any atmospherically drafting forced air furnace found still in use and not eligible as an ECM replacement,

may be considered a H&S furnace and eligible for replacement even if no documented H&S condition existed on the date of the initial evaluation. Auditors wishing to exercise this clause must clearly document the client file stating that is the reason for replacement and provide a picture of the unit. All H&S rules and price caps still apply.

2.4.4.5.1 Mechanical Systems in Rental Properties

Repairs, modifications, or replacements of space heating and cooling equipment in rental units are allowable measures in accordance with the following:

DOE and LIEAP funding can be used to cover the entire cost of eligible system repairs, modifications, or replacements. In multifamily complexes, a landlord contribution is not required but highly encouraged to help with covering the cost of any mechanical system replacements (see Eligible Rental Units). In single family structures, landlord contributions are encouraged to help with covering the cost of H&S mechanical system replacement and repairs.

Please reference specific grant documents to determine mechanical replacement eligibility with other weatherization grants.

2.4.4.5.2 Mechanical System Repair

If the estimated cost of repairs for a mechanical system exceeds $1,000 the piece of equipment shall be replaced.

Mechanical equipment shall be repaired whenever feasible to correct H&S issues before considering replacement. Mechanical equipment shall not be repaired if it will be replaced for efficiency reasons.

Clean and Tunes of existing mechanical systems are an allowable H&S item. WAweb is also able to approve C&T's as eligible SIR measures. C&T's remain eligible as H&S items with documented issues.

Costs for cleaning, tuning, adjusting, or modifying of mechanical systems to correct documented H&S issues, such as high CO, low or high heat rise, poor draft, or dirt or grime to the point of impacting performance of unit, are allowable H&S costs.

Costs for repairs or replacement to combustion gas venting systems (flues) are approved as health and safety measures whether or not a mechanical system is being replaced.

2.4.4.5.2.1 Mechanical Clean and Tune vs Repair

A clean and tune (C&T) is generally a basic, standalone measure that is primarily labor with only minor materials. When there are necessary repairs identified, either upfront or during a C&T, the work scope/measure is elevated to a furnace repair. A furnace repair would include the clean and tune; there is no need to try to separate the costs between what is a C&T and what is a repair. Clear justification and documented reasoning for the clean and tune shall be noted on the Mechanical form.

A furnace repair should be any substantial fix or component replacement contained inside the heating unit (furnace cabinet/air handler). Examples of repair items may be heat exchanger, blower motor, circuit boards, ignitors, inducer motors, or gas value.

Items located outside the furnace cabinet, but part of the furnace typically have their own specific measure such as furnace flue repair, gas line repair/replacement, or condensate line/pump. For reporting purposes, these items would NOT be considered furnace repairs. When these types of

measures are reported separately, they would not trigger the heating system action of repair/replacement.

2.4.4.5.3 Mechanical System Replacement

No KWAP funds will be used for the purchase or installation of used mechanical equipment.

Replacement mechanical equipment shall be competitively bid.

Mechanical system contractors shall be licensed as required by the authority having jurisdiction and obtain all required permits.

Replacement mechanical equipment shall be sized using proper sizing protocols. The sizing shall be based off of WAweb's House Loads and Energy Consumptions data from the Recommended Measures Report, or a Manual J calculation, shall be based on the post-weatherization housing characteristics, including installed mechanical ventilation. A sizing factor up to 125% is permitted and encouraged. Equipment sizing may further be dictated by existing A-coils, or standard industry available equipment (round up to the next available size). Client files must be documented with sizing reports and any other sizing considerations used.

Mechanical equipment being replaced must be removed from the premises by the contractor being paid to install the new mechanical system.

Clients shall be instructed in the operation and maintenance of new equipment. Paperwork and manuals for new equipment will be left at the residence with either the client or near or on the equipment.

Forced air furnaces shall not be installed in a home without ductwork.

All associated material and labor costs necessary to properly install mechanical equipment shall be considered part of the total equipment cost. The exception is installing a flue liner. Installing a flue liner for an orphaned water heater as a result of installing a replacement furnace is a separate H&S cost and shall not to be considered as a part of the furnace cost. The cost to connect a replacement furnace to existing ductwork, including the cost to install or modify a filter rack, will be considered part of the total furnace replacement cost. New ductwork installation costs are not reported as part of the heating system total cost and are reported as standalone ductwork expenditures in Hancock.; see the section on Ductwork. The required installation of a slot cover is to be included in the associated material and labor costs of the furnace replacement.

The replacement of mechanical equipment for H&S is not allowed for the following:

- Air Conditioning
- Electric resistance

2.4.4.5.3.1 Water Heating Systems Replacement

Water heating systems, i.e. water heaters, can be replaced using weatherization funding if one of the following circumstances exists:

- Leaking
- Producing a high concentration of CO

Installation of an on-demand, direct vent, or fan assisted water heater is allowed if the required draft cannot be established after all other considerations. Fuel switching to an electric tank may also be considered but requires a field waiver from KHRC.

The installation of a water heating system when one is not present is generally allowed. Refer to specific grant documents to determine eligibility.

2.4.4.5.3.2 Orphaned Water Heater

Water heaters that previously shared a vent or chimney with a furnace but as result of a furnace replacement are now vented alone are called orphaned water heaters. Existing orphaned water heaters must pass spillage and draft tests under worst case conditions. Where KWAP replaces a furnace, and orphans a water heater, the metal flue for the water heater must be deemed adequate for the water heater alone or it must be replaced/modified; also see masonry chimneys. Adding a flue liner or resizing the flue may be necessary to achieve acceptable spillage and draft results under worst case conditions.

2.4.4.5.3.3 Masonry Chimneys

A flue liner shall be installed where KWAP orphans a water heater or furnace venting into an unlined masonry chimney.

Existing unlined masonry chimneys that have a furnace, water heater, or both, venting into it and will not be impacted by combustion equipment replacement or modifications performed by KWAP, should be considered pre-existing conditions and are typically beyond the scope of the weatherization program. All vented equipment into the chimney must pass spillage and draft tests under worst case conditions. The chimney should be inspected for corrosion, which causes the masonry to crumble and crack, and the client notified.

2.4.4.5.3.4 Flue Liners

Flue liners should be galvanized-steel vent pipe, stainless steel pipe, Type B-vent, or a flexible metal liner and sized appropriately. A liner used to vent solid fuel may not also be used to vent liquid or gaseous fuel.

2.4.4.5.3.5 LIEAP Funded Air Conditioner Replacements

Before using either of the LIEAP options below, air conditioners will be proposed for replacement in the energy audit to determine if the system can be replaced as an ECM first.

Option 1) LIEAP weatherization funds may be used to install and/or replace window or central air conditioning systems on weatherization projects for elderly, disabled, or medically at-risk homeowners **IF** the AC is nonexistent or nonfunctional. Documentation from the client stating their medical condition to be considered at-risk must be included in the client file. Window units are the only option when no existing ductwork for forced air is available at time of pre-inspection OR if no furnace work is being performed.

Option 2) LIEAP weatherization funds may be used to replace central air conditioning systems in owner occupied units **IF** weatherization replaces the connected furnace **AND** the AC is nonfunctional, older than 15 years of age, or when the existing AC would otherwise damage or is not compatible with the new furnace. Documentation of the age of AC must be included in the client file if replacing for age.

Documentation of nonexistence, nonfunctional, and age of existing unit must be documented on mechanical inspection forms or otherwise recorded in the client file. Pictures of the existing system are highly encouraged.

Documentation of existing medical conditions needing air conditioning can be on a separate written statement from the client or documented on the Occupant Pre-Existing or Potential Health Conditions Release Form. Weatherization is under no obligation to provide air conditioning and may only be able to provide limited cooling, such as one primary room vs whole house cooling. Only one central or window unit may be installed per this policy.

Installed window units under this section are to be installed in the residence per NREL SWS 5.0301.1a-e. Units must match or exceed the available voltage and/or amperage of existing units. Selected units are to be Energy Star qualified. Units must be adequately air sealed, such as our permanent WAC treatment. The switching of functional window AC units to central forced air is not permitted with either option 1 or option 2 above.

Installed central ac systems must be installed in accordance with manufacturer specifications and applicable building codes (i.e., electrical disconnects, adequate clearances, exterior pad, etc.).

LIEAP AC reporting in Hancock: The LIEAP Performance Measures Report requires us to report on the "Repair/Replacement of operable and non-operable *Home Energy Equipment*". Historically, this was just furnaces, but it should also now include any AC's replaced. In Hancock, this was designed as the Heating System Action but should be used for both heating and cooling. In the instance where both are replaced, select operable or non-operable based on the furnace.

2.4.4.5.3.6 A-coils

If during the normal evaluation or replacement of a forced air furnace, should the existing a-coil be found to not be compatible with the new furnace, it must be considered for replacement. If the cooling system (a-coil and condenser) is not eligible for replacement through other provisions or funding (i.e. SIR eligible, LIEAP AC clause, or supplemental funding), the replacement of just the noncompatible a-coil shall be considered as an ancillary item to the furnace. If the a-coil is compatible but is identified as leaking water or in a condition that would otherwise damage the newly installed furnace, it shall be considered an incidental repair measure. A-coils shall be considered a part of a H&S furnace price, but they are to be reported in Hancock as a separate cost.

2.4.4.6 Minimum Efficiency Requirements

Replacement mechanical equipment funded by DOE must meet or exceed the minimum efficiency requirements set forth by Energy Star (or equivalent) listed below. Where conditions or financial considerations prohibit or prevent meeting these efficiency standards, a field waiver from KHRC may be requested ***prior*** to installation.

The most efficient equipment available shall be considered.

- Forced air furnace: 95% AFUE
- Mobile home forced air: 95% AFUE

- Exterior forced air package unit: 80% AFUE/≥15.2 SEER2/ ≥12.0 EER2
- Wall unit, direct vent or top vent with fan: 76% AFUE
- Console, direct vent: 80% AFUE
- Console, fan type: 76% AFUE (H&S only)
- Boilers, hot water/steam (gas): 90% AFUE
- Boilers (oil): 87% AFUE
- Electric water heater: 2.20+ UEF
- Gas water heater: 0.81+ UEF
- Split System Ducted Heat Pump: ≥ 8.1 HSPF2/ ≥15.2 SEER2
- Heat Pump PTAC: ≥ 8.1 HSPF2/ ≥15.2 SEER2
- Central Air Conditioning: ≥15.2 SEER2/ ≥12.0 EER2
- Ductless or Mini-Split Heat Pump: ≥ 8.5 HSPF2/ ≥15.2 SEER2

Ducted heat pumps and PTAC's shall have an electrical resistance backup heat strip. Ductless or mini-split heat pumps do not currently have the option to have built in back up electric resistance heat. For this reason, auditors will need to plan for and educate clients on suitable back up heating sources when the heat pump is unable to provide sufficient heating.

Where mechanical replacements are funded by non-Federal funds, equipment must meet or exceed the following minimum efficiencies requirements listed below. Where conditions or financial considerations prohibit or prevent meeting these efficiency standards, a field waiver from KHRC may be requested ***prior*** to installation.

The most efficient equipment available shall be considered.

- Forced air furnace: 92% AFUE
- Mobile home forced air: 92% AFUE
- Exterior forced air package unit: 80% AFUE/14 SEER (13.4 SEER2 equivalent)
- Wall unit, direct vent or top vent with fan: 76% AFUE
- Console, direct vent: 80% AFUE
- Console, fan type: 76% AFUE (H&S only)
- Boiler, hot water: 90%
- Boiler, steam: 90%
- Electric water heater: 0.91 EF
- Gas water heater: 0.59 EF
- Split System Ducted Heat Pump: 15 SEER (14.3 SEER2)/8.8 HSPF (7.5 HSPF2)
- Heat Pump PTAC: COP 3.0/EER 9.7 or greater (approx. 10.2 HSPF)
- Central Air Conditioning: 14 SEER (13.4 SEER2 equivalent)
- Ductless or Mini-Split Heat Pump: 10 HSPF (8.5 HSPF2) or greater, 15 SEER/SEER2 or greater

2.4.4.7 Ductwork

Ductwork shall be proposed for air-sealing and insulation when located outside the thermal-pressure boundary of the home and physically accessible as deemed necessary by diagnostic testing (i.e. pressure pan testing) and cost effectiveness. The *"target"* for duct sealing is 1 pascal or less per register for

Manufactured homes. The target for site-built homes is 2 pascals or less per register. Target values are what we are hoping to achieve and not a hard-set requirement .

2.4.4.8 Ductwork Modification and Repair

Ductwork modification and repair is an allowable measure and should be justified and recorded under the appropriate budget category. General repair of distribution systems can be approved as either duct sealing (when outside the envelope), as an H&S measure (when correcting pressure imbalances), or as a documented incidental repair item.

2.4.4.9 Ductwork Installation

The installation of a new ductwork distribution system, or the significant modification or replacement of existing ductwork, is only allowed under certain conditions.

The installation of ductwork is allowed when the removal of unvented space heaters or unsafe floor furnaces is required.

On a case-by-case basis, the installation of ductwork can be considered when replacing an unsafe wall or console units. Consideration should include but not limited to the size of the home, usage of all the rooms in the home, required Btu's, potential energy savings, comfort issues, installation feasibility, impacts of additional weatherization measures, and total cost.

The cost of ductwork installation must be included in the cost of the heating system when considering an upgrade to forced air in non-H&S cases. For example, if there is a functional, safe (non-H&S) floor furnace, wall unit, or console unit, the proposed upgrade to a forced air system must include the cost of the furnace and the cost of the ductwork. The furnace cost and ductwork cost would still be reported separately in Hancock as efficiency ductwork with a note stating that the ductwork was audit approved with the furnace. Ductwork installed with H&S furnaces is not part of the H&S furnace cost and will be reported separately as H&S ductwork.

2.4.5 Manufactured Homes

Manufactured homes will be inspected, and measures installed in accordance with the KS SWS Field Guide.

All duct registers will be pressure pan tested, and results recorded at both the pre- and post-inspection.

2.4.6 Final Inspections

No dwelling unit may be reported to KWAP as completed until the inspected by a certified individual per section 2.4.1.3 who certifies that the applicable work has been completed in a professional manner and in accordance with the priority determined by the audit procedures. The final inspector shall certify and document in the client file that all work performed meets or exceeds the specifications as outlined in the Kansas SWS Field Guide with a pass or fail denoted on final workorder.

To meet the final inspection requirements, every agency shall have a certified QCI, and all final inspections must be completed by a certified QCI. The final inspection is the agency's last opportunity to ensure that all necessary work has been completed, performed acceptably, and all measures were addressed according to the KS SWS Field Guide and done in accordance with SIR rankings. Where or when an agency does not have a certified QCI on staff to meet the requirement or inspection demands,

a contracted certified QCI may be used with the written approval from KHRC. This contracted QCI may be an independent contractor or an arrangement with a network certified QCI may be established.

Due to the size of many Subrecipients, it is acceptable to have the same individual conduct the pre-inspection and perform the final inspection. However, the final inspector shall not be involved in any of the actual measure installation. If the agency uses contracting inspectors for pre-inspections, the final inspection cannot be completed by the same inspector or any other representative of the inspection company that did the pre-inspection.

In situations where inspectors are found not upholding the high quality of work expectations or are approving work which is not consistent with the Kansas SWS Field Guide, inspectors and subrecipients will be notified in writing. Corrective action plans may be required to be developed and implemented based on the severity and frequency of non-compliance. Increased monitoring may be required. Concerns will be tracked to resolution. Repeat offenders may be suspended or disqualified from conducting final inspections for the KWAP.

Final inspections include:

1. A walk-through of the dwelling to review and assess the original pre-inspection, and any change orders, and audit recommendations and confirm that the measures called for on the work order were appropriate and in accordance with KWAP procedures.
2. Inspection of all work performed to ensure it has been completed in a professional and workmanlike manner and that it meets or exceeds the specifications of the KS SWS Field Guide.
3. An inspection of material used to ensure appropriate and approved materials were used.
4. An inspection of work areas to make sure the area has been left in a clean and orderly manner.
5. An inspection of work areas to ensure that there was no damage to existing finishes or household items.
6. A thorough inspection to ensure all health and safety issues have been corrected and that no new hazards exist due to weatherization.
7. Safety testing of each combustion appliance in the dwelling. A complete combustion analysis is to be done on each unit, even if the unit was not replaced, completing the necessary forms as required.
8. A Worst-Case Draft Test is to be performed on all homes under worse case depressurization conditions. The results and/or other notes must be documented on the necessary form.
9. A check of installed measures that were completed, ensuring that the measures performed on the house were completed in order of priority as determined by the SIR ranking.
10. Post weatherization blower door test.
11. Comparison of the final CFM50 reading with the initial CFM50 reading.
12. ASHRAE 62.2 or Building Tightness Limit (BTL) calculations. Verifications and measurement of all mechanical ventilations systems (spot and continuous).
13. Assessment of the post weatherized home for any missed opportunities.
14. The final inspector is responsible for obtaining all the proper signatures on the completed work plan. Dated signatures are required from the client and the final inspector.
15. Any work not completed or requiring additional attention must be noted on an agency rework or memo and be included in the client file. (See section Change Orders and Reworks)

Duct sealing will be final inspected to ensure completion. Post pressure pan testing will be conducted to verify completion of duct sealing, if determined necessary at the pre inspection. Duct sealing will be considered successful when post pressure pan test results are at 2 pascal or less for site-built homes and 1 pascal for manufactured homes. It is allowable to be within 10% of the target.

In some cases, it may be impossible to complete a final inspection of the dwelling unit due to client or scheduling obstructions. In these cases, the subrecipient must document the repeated efforts to conduct the inspection. This documentation must be retained in the client file and approved by the subrecipient's Weatherization Director. A note shall be added to each measure not inspected on the audit measures lists indicating that no final inspection occurred. The subrecipient is required to make every effort to obtain signatures and to thoroughly document all work performed. When post blower door testing is not allowed to be conducted, do not estimate a post blower door value. Record in the file that no testing was allowed. In Hancock, report 1 CFM for the post blower door value. This will indicate that no post blower door test was conducted.

Partial Weatherization: Should the client refuse entry to complete the remaining work scope once work has started, the subrecipient must document the repeated efforts to complete the work and/or conduct a final inspection of the partially completed work. This documentation must be retained in the client file, recorded in Hancock, and approved by the subrecipient's Weatherization Director. A comment that partial weatherization occurred must appear in the Hancock database. A note shall be added to each measure installed and not inspected on the audit measure list if no final inspection occurred. Notifying KHRC is recommended, and additional guidance is available upon request.

Warranty periods may be waived for homes where final inspections are not allowed by the client. Clients must be notified if warranties will be voided.

2.4.7 Change Orders and Reworks

2.4.7.1 Change Orders

No change order shall be implemented or approved without prior justification. All change order items for energy efficiency measures must receive an SIR 1.0 or greater prior to the completion of the work. The change order must be signed by an authorized representative of the agency before the work is done and filed in the client file along with the audit approval justification.

2.4.7.2 Reworks

Units in which weatherization measures were either not completed or were competed unsatisfactorily in desired outcome in performance or professional appearance may need to be reworked. No unit may be reported as complete until all reworks are successfully resolved. All reworks will be documented in the client file. Corrected measures must be re-inspected, and the client's and final inspector's dated signature must appear on the document.

In rare instances, the final inspector and program director may determine some minor work as missed opportunities and deduct those line item charges from the work order. Material and labor charges for incomplete or failed installation measures are not allowed expenditures. The client file must clearly indicate which measures were removed from the scope of work and the reduction in the overall job cost. Crews and contractors must be made aware of failed measures and instructed on how to properly complete the work in the future.

Agencies with a high number of reworks may be monitored more frequently and/or have a higher percentage of homes examined until KWAP can be assured that all deficiencies are resolved.

2.5 Energy Audit Procedures

2.5.1 Energy Audit Procedures

KWAP utilizes a DOE approved audit tool for every dwelling. KWAP has received DOE's conditional 5-year audit approval, and it is valid through February 26, 2031. The full audit procedures are available upon request. WAweb is used for single family, individual units in Low-Rise Multifamily , and manufactured homes. Low-Rise Multifamily buildings consists of buildings containing 5 or more dwelling units per building, no more than 3 stories above grade, with each individual unit containing its own mechanical systems (no centralized mechanical systems).These individually heated units will be modeled in WAweb as individual units using the same field auditing and modeling procedures as detached single-family units. Subrecipients shall notify KHRC if planned production in multifamily units will exceed 20%. Large multifamily buildings consists of buildings containing 5 or more dwelling units that are 4 or more stories above grade, or that contain 5 or more units with centralized/shared mechanical systems (e.g., heating, cooling, hot water, ventilation) and are not addressed in KWAP at this time. The audit and assessment procedures must be appropriate to the dwelling type and each audit, and all supporting documentation will be submitted to KHRC or DOE for pre-approval.

The following section describes the procedures and field protocols used to collect, analyze, and generate a list of cost-effective energy conservation measures. These procedures and protocols apply to all housing types served by KWAP. When combined with identified health and safety (H&S) measures, incidental repairs, and general heat waste (GHW) items, a comprehensive weatherization work scope is the result.

Agencies are responsible for maintaining software licenses and are responsible for upgrading versions and annual fuel rates when prompted by KHRC. The current approved version of WAweb is version 10.

2.5.2 Energy Audit Procedures and Field Protocols

Comprehensive training for auditors and inspectors is essential for sound decision-making in the field, even when aided by a decision-making tool like WAweb. Inspectors must understand how to accurately measure, describe and evaluate the energy features of a house. They must also understand what improvement measures are effective and appropriate, and how those improvement measures may affect or create potential health and safety hazards in the house.

KWAP uses a detailed field inspection, testing, and data collection protocol consisting of nine key steps. This protocol ensures that all important features are measured, evaluated, and documented. The order of these steps is flexible, and each auditor will perform them in the order that they find most efficient for the home. This auditing protocol is applied to all building types including single family, manufactured housing, and low-rise multifamily. Each audited unit receives improvement recommendations, including ECMs, H&S items, and incidental repairs items that are specifically tailored to the building type and needs of the structure. All improvement recommendations must be allowed per program guidelines as outlined in the Kansas State Plan, the Subgrantee Procedures Manual, the Kansas SWS Field Guide, or the Kansas Health and Safety Plan.

Step 1 – Driveway assessment: The inspection process begins as the auditor initially pulls up at the home. While sitting in the vehicle and as they walk up to the home, the auditor should begin taking note of the overall condition of the home. Special attention is given to the overall condition of the roof and exterior walls, and any area of deterioration is noted. Unusual exterior features of the home should be noted for further investigation. The observance of home additions, the number of roof penetrations, and flue types can start providing a reference of things to look for during the full inspection.

Step 2 – Client interview: This step involves providing information to the weatherization client about the weatherization process and gathering important information about the dwelling from the occupants. Occupants may be asked how long they have lived in the dwelling and information about comfort, health and safety issues, and maintenance issues. For example, it is useful to know if certain rooms are uncomfortable, if cold air drafts are experienced and where, if water pipes have ever frozen and where, or if water pipes or the roof leaks and where. The inspector attempts to gain as much potentially useful information about comfort concerns, moisture problems, lifestyle issues, existing and potential client health issues, etc., as possible before beginning the physical inspection process.

Step 3 – Health and Safety (H&S), hazard, and deferral inspection: This step is to inspect the home for existing H&S concerns, any hazardous conditions, or any condition that could lead to a deferral. Auditors will reference the Kansas H&S Plan for guidance and required/allowable action when H&S items are identified. The hazard identification and notification form is completed during this step. Auditors will reference the subrecipient procedures manual, H&S policy, and deferral policies to determine what actions are required/allowable and if the inspection process can continue.

Step 4 – Exterior measurement and assessment: This step is to inspect the exterior building components of the building and begin taking pictures, making drawings, recording key measurements, and noting any necessary air sealing or repair areas. A data collection form is utilized to collect and record existing conditions. The existing conditions of the home must be documented as completely and accurately as possible. House dimensions are to be to the nearest ½ foot as measured from the exterior. Window and door dimensions are to be to the nearest inch. Framing components are to be measured to the nearest ½ inch. The following elements are required:

- A digital picture of each side of the home (4 photos minimum).
- A scaled and dimensioned drawing showing exterior dimensions (i.e., floor plan or footprint) of the home. Drawings must clearly identify window and door locations. Other important features like foundation vents, equipment, utility entries, and areas for exterior air sealing or other work should be noted on the appropriate drawings or pictures.
- Measurements to determine conditioned floor area and volume.
    - Conditioned floor area and volume are those spaces within the thermal-pressure boundary. See *2.4.2.2 Framed Floors over Enclosed Foundations* to determine inclusion of foundation spaces into these calculations.
- Foundation type, dimensions, location, insulation values, and other characteristics.
- Above grade wall dimensions, locations, siding type, insulation values, and other construction characteristics.
- The presence of attic ventilation is noted, and a determination is made if additional ventilation will need to be installed.
- Exterior window and doors orientation, material type and construction. Any necessary repairs are listed during this time. Dimensions are recorded to the nearest inch. The standard format is width x height. For example, “3052” is 30” wide by 52” in height.

- Infiltration Height for ASHRAE 62.2-2016 calculations.
    - This height is equal to the vertical distance between lowest and highest above-grade points within the pressure boundary.
- Manufactured home floors and bellies must be inspected to assess total floor and outrigger width, framing characteristics, insulation values, and any air sealing areas or other necessary repairs.
- Pictures of outdoor AC condenser and recorded name plate/tag information.

Inspecting areas accessible from the exterior is generally conducted during this step, such as crawlspaces or attics with exterior access. A data collection form is utilized to document key characteristics of these areas such as dimensions, locations, heights above and below grade, presence of foundation vents, floor framing dimensions, existing R-values, and any air sealing areas or needed repairs.

Step 5– Interior Measurement and Assessment: Interior spaces are inspected to identify existing features and to define the thermal and air barriers and identify potential upgrade opportunities. WAweb requires accurate determinations of surface areas, construction type, and insulation values for all locations of the thermal and air barrier. A data collection form is utilized to collect and record existing conditions. The following elements are required:

- Foundation type, dimensions, location, insulation values, and other characteristics are confirmed or completed. Rim and band (aka sill box) areas are inspected.
- Exterior wall characteristics are confirmed or completed. Dimensions, locations, framing, insulation values, and interior finishes and other characteristics are confirmed or completed. With the owner's permission, test holes are drilled to determine if sidewalls are insulated. Test holes are generally made on the interior in a closet or under a cabinet along an exterior wall. Exterior test holes are generally avoided if possible. Test holes provide a baseline for further infrared camera scans if conditions permit.
- Window and door interior conditions are assessed and recorded.
- A scaled and dimensioned top view drawing showing all ceilings and/or attic areas of the home. Drawings must clearly identify attic locations with names or numbers. Other key features like access locations, ceiling penetrations, open wall cavities, damming locations, storage areas, ductwork, ventilation fans, etc., are recommended to be included on the drawings to identify exact locations.
    - For inaccessible attics such as in manufactured homes, mobile homes, or vaulted ceilings, insulation values will be assessed by drilling test holes and measuring or viewing with bore scopes with client's written permission.
- Ductwork locations, R-values, and number of returns. All ductwork in unconditioned locations must be inspected for air leaks and insulation.

~~*With the owner's permission, test holes are drilled to determine whether sidewalls are insulated.~~

Inspection of the homes air and thermal boundary is usually completed or confirmed during the interior inspection. Most KWAP homes will have the primary air barrier defined as the interior wall or ceiling component (i.e., sheetrock, lath and plaster, paneling, etc.), although air sealing on the exterior may also be necessary. Typically, exterior walls abutting the ambient air should be considered the location of the air and thermal boundary. In cases where walls abut unconditioned spaces (i.e. vented CAZ walls, zoned-out unconditioned areas, etc.), they will be defined as the air and thermal boundary. Holes or

penetrations in the air and thermal boundary will be noted. The air and thermal envelopes should be aligned and in contact with each other, misalignments will be noted.

Inspecting areas accessible from the interior is generally conducted during this step, such as basements, crawlspaces, or attics with interior access. A data collection form is utilized to document key characteristics of these areas such as dimensions, locations, heights above and below grade, floor framing dimensions, existing R-values, and any air sealing areas or needed repairs.

All top planes or ceilings are inspected for penetrations from both within the conditioned area (inside) and from the top side (attic) where accessible.

Holes or penetrations in walls, especially in balloon-framed structures, can allow conditioned air to move from the structure through interconnected framing conduits. Holes or penetrations which would allow insulation to blow into the living space are documented for sealing prior to the installation of sidewall insulation.

Interior walls are assessed. Interior walls between conditioned areas generally are not a weatherization or building science concern but will need to be ruled out as an infiltration pathway.

Attached garages are to be inspected to determine if bypasses are present that may allow the intrusion of potentially hazardous materials into the conditioned space.

Floors between stories are inspected to determine if they contain open floor joist areas that can act as air passage conduits.

Cantilevered floors will be inspected from either the interior or exterior to assess the presence and/or alignment of the air and thermal boundary and to assess the cavities for potential upgrades.

The sill plate and band joist area in homes can be a major source of air infiltration. These areas are inspected and documented for potential upgrades.

Basement grade entries, foundation entry doors, and crawl space entry hatches are inspected to ensure that they provide an effective barrier to the penetration of water and a durable air seal.

Step 6 – Mechanical Equipment Inspection: Mechanical equipment can consist of space heating and cooling equipment and water heating equipment. It's important to determine and document if this equipment is in safe operating condition. Significant safety concerns are a focus of this inspection step. Efficiencies will be documented by name plate data or online research. Additional policies, procedures, and guidance on mechanical equipment can be found in section 2.4.4 of the Subrecipient Procedures Manual.

A detailed inspection protocol must be followed based on the type of equipment that is present. The home cannot be weatherized until the inspection is completed and the space and water heating systems are determined to be safe, or if replacement equipment will be required.

KWAP requires the use of standardized mechanical inspection forms. These documents are periodically updated, and the most recent version of these forms are available on the KHRC SharePoint.

Step 7 – Blower Door Air Leakage Testing: A blower door test is required to determine the leakage rate of the dwelling and to locate and prioritize air sealing measures. Both a pre-weatherization and a post-weatherization test are required. The amount and location of air sealing is determined by the auditor's recommendations and the cost effectiveness as determined by WAweb. Blower door pre-test should be performed after major holes in the building shell are repaired or temporarily patched.

Blower door tests will be conducted on every unit to be weatherized in a multifamily unit. Multifamily units will be inspected as individual units, and a separate WAweb audit will be performed for each unit.

Step 8- Advanced Diagnostics and Assessments:

In addition to mechanical equipment and blower door testing, several other assessments may be performed during the audit and post inspection.

Diagnostic testing and data collection will be conducted to show compliance with current ventilation requirements. ASHRAE 62.2-2016 is the currently adopted ventilation requirement for all DOE and recommended for LIEAP funded weatherized homes. Existing and installed exhaust fans and ventilation systems shall be measured with a flow hood to determine effective ventilation rates and to calculate required continuous ventilation needs. Auditors are encouraged to use the ASHRAE Pre-Inspection Form. Client files will contain both pre-weatherization ventilation need estimates and post weatherization ventilation documentation showing ASHRAE compliance. Either the KWAP ASHRAE 62.2-2016 spreadsheet or REDCalc tool will calculate ventilation requirements. REDCalc must be used on any buildings that possess a shared wall (adiabatic walls) with another unit. Duplexes, 4-plexes, and other multifamily structures.

Pressure pan testing in coordination with the blower door test is required to identify duct leakage in all manufactured/mobile homes. In Site-built homes where the ductwork is located outside the conditioned envelope (i.e. zoned out attics, crawlspaces, etc.), pressure pan testing should be used to identify a need for duct sealing. When a need for duct sealing is identified (over 2Pa), it will be proposed as an ECM in WAweb using the Whole House blower door method.

Zonal Pressure Diagnostics (ZPD) may also be conducted if deemed necessary to assess or confirm air barriers and to quantify air leakage between zones. A manometer may be used to quantify pressure imbalances throughout the structure.

Step 9 – Client Education: The auditor discusses the results of his or her investigation and inspection with the client and describes additional measures or lifestyle measures they can undertake to further reduce energy use. Details of potential work scopes may be shared with clients at this time, but no promises can be made until the measure receives WAweb audit approval.

Note: Often, insulation levels may vary. Building components may be modeled in separate entries to account for different insulation levels. Where this could lead to numerous entries or where single entries are modeled, REDCALC's parallel path r value tools should be used to calculate an area weighted R value. https://basc.pnnl.gov/redcalc/tool/parallel-path-r-value

2.5.3 WAweb Data Entry

WAv8 user manual : https://weatherization.ornl.gov/wp-content/uploads/2024/08/WAv8-User-Manual.pdf

Once all the field data collection is complete and documented on the standardized data collection form, the housing characteristics are entered into the appropriate audit tool within WAweb. That is single family and small multifamily homes are entered into NEAT and manufactured homes are entered into MHEA. Data is entered as completely and accurately as possible. All building types, single family, manufactured, and small multifamily begin the same way and utilize the same data entry approach. Building components and spaces that exist in the home are entered into NEAT/MHEA, those areas or features that are nonexistent are not entered and those fields are left blank. For example, manufactured homes having no additions shall leave the additions section blank.

Field data should be entered into WAweb's input forms in the sequence of the Audit Dock. The following outlines what is required and the assumption or standardized approach for data entry:

Account

Prior to the creation of an audit, an account will be created for the weatherization client. This account will be selected when inputting the audit. An account name, account number, address, city, state and zip code must be input at a minimum. The account name and account number will be created by the subrecipient agency.

General

Audit

- The agency providing weatherization services to the client will be selected. The account name and number created for the weatherization client will be selected.
- An audit name following the prescribed naming scheme will be entered. This shall follow the order: Agency Identifier-County Initials-Client Last Name-Housing Indicator-Audit Number
    - For example, John Doe in Shawnee County is the client for NEKCAP. It is a single-family home. The audit number is 1455. The job number will be 04.SN.Doe.S.1455
    - 01 will represent ECKAN, 11 will represent NCRPC, 13 will represent SCKEDD, and 04 will represent NEKCAP.
    - S will indicate Single-family homes, M will indicate Manufactured homes, and X will indicate small multi-family homes.
- The date on which the initial inspection is completed will be selected.
- The auditor performing the initial inspection will be selected.

NEAT *Building Information*

- Enter the number of occupants
- Select the amount of conditioned stories. This is the number of floors that are heated or cooled, including a basement.
- Enter the infiltration height. This is the vertical distance between the lowest and the highest above-grade points within the pressure boundary. Note: if a below grade basement has a door that opens to the outdoors, this would be included in the infiltration height as the door opens to the above grade ambient air.
- Enter the floor area. This is sum of the floor areas within the pressure boundary. See Framed Floors Over Enclosed Foundations to determine the inclusion of basement floor areas.
- Enter the number of bedrooms. At time, determining whether a room is a bedroom can be difficult. Open areas with a bed, such as in basements, do not count as bedrooms. Small closets do not count as bedrooms.
- Select the appropriate wind shielding. This selection is based on the surrounds of the home. Homes with thick vegetation or closely surrounded by buildings that rarely experience windy conditions are well shielded. Homes with little to no surroundings to protect it from the wind are exposed. Home between these two descriptions will be normal shielding.

MHEA *Building Information*

- *Enter the number of occupants.*
- *Enter the Length and Width. This should be measured from the exterior. The building information will be entered based off the original home.*
- *Enter the Exterior Wall Height. Exterior Wall height is the height of the vertical wall from floor to ceiling, not adjusting for cathedral or raised ceilings. Generally this is from the bottom of the bottom plate to the top of the top plate of exterior walls.*
- Enter the infiltration height. This is the vertical distance between the lowest and the highest above-grade points within the pressure boundary. This should account for cathedral or vaulted ceilings.
- *Enter the number of bedrooms. Open areas with beds, such as curtained-off areas in livings rooms, do not count as bedrooms.*
- Select the appropriate wind shielding. This selection is based on the surroundings of the home. Homes with thick vegetation or closely surrounded by buildings are well shielded. Homes with little to no surroundings to protect it from the wind are exposed. Home between these two descriptions will be normal shielding.

Libraries

- Kansas will typically be selected as the Weather State.
- The nearest Weather Station to the home will be selected. Using Weather Stations in nearby states is allowed.

- The most up to date Economic Parameters for the Midwest Census region shall be used.
- A Measure Cost library, which shall be updated at least yearly by subrecipient agencies, will be selected.
- A key parameter library, which will be shared and updated yearly by KHRC, will be selected. The discount rate will be 2%.
- An appropriate Defined Measures library will be selected.
- The billing adjustment box will be selected when modeling small multifamily homes.

Fuel Cost Details

- KHRC will provide statewide averaged fuel cost, which will be updated yearly. The relevant fuel cost will be selected.

NEAT Shell

Walls

Walls will be entered by their orientation. Walls with the same construction, insulation, exposure and orientation may be grouped together. Select outside (Ambient) if the wall is exposed to the outside air. Select Buffered Space if the wall is exposed to an unconditioned but enclosed space such as a garage, or vented CAZ where the temperature can be expected to be different than the ambient outside air. Any wall abutting an attic space shall be entered in the Finished Attic section as a kneewall. In Low-Rise Multifamily homes, walls to other conditioned spaces will be omitted. There is no need to model walls to other conditioned spaces in single family homes.

Windows

Windows will be modeled accurately. Windows of the same construction and characteristics may be grouped together. The window code shall indicate each window in said entry. For example, if window 1 and window 3 are modeled under one entry, the window code shall read W1:W3. Typically, windows will be medium leakiness. In cases where a pane has become loose or a small piece of the window (half-dollar sized) is missing, degrade one level. Where there is a large hole or a pane is missing degrade two levels. If a storm window is in at least average condition, upgrade your selection by one level. Windows will be proposed for replacement as ECMs, or as IRMs when not cost effective and justified to preserve or protect an installed ECM. The weatherize window function will not be used and the cost of air sealing windows shall be included in the cost of air sealing. When windows are deteriorated beyond repair, they are not incidental, and supplemental funding will be used to replace them, the Replace Window and Required boxes will be checked and a waiver must be obtained from KHRC prior to its replacement.

Typically, the cost of windows is calculated based on the United Inches. WAweb utilizes the square footage of windows to calculate the cost. In order to calculate an accurate price, the price of window replacements shall be entered as $1/SqFt. The square footage of the window will then be subtracted from the overall cost of the window replacement, and the remaining difference will then be entered into the Additional Cost section with a comment stating the total cost of the window replacement. For example, if a window is 20sf and costs $400 to replace, a cost of $380 will be entered

into the Additional Cost box. The same process will be used for storm windows. Note: if only one window is being replaced, only one window should be included in the window entry.

Doors

Doors will be modeled accurately. If multiple doors of the same construction, orientation, size and characteristics exist on the same wall, they may be modeled together and the "number on this wall" shall reflect the number of doors. The door code shall indicate all doors included in this entry. For example, if door 1 and door 2 are modeled in one entry, the door code shall reach D1:D2. Typically, leakiness will be medium. Where doors are ill fitting, have structural problems, or significant leakage sites exist, leakiness will be selected as Loose. Doors may be proposed as an ECM or as an IRM when justified to preserve or protect an installed ECM. When doors are deteriorated beyond repair and supplemental funding will be used to replace them, the Replace Door Required box will be checked and a waiver will be obtained from KHRC. Doors located on buffered walls will not be modeled .

Unfinished Attics

Unfinished attics will be modeled accurately based on the construction (joist size, roof color, floored or unfloored), existing R value, and add insulation. Attics of the same characteristics and maximum depth may be grouped together. Where different R values exist, separate attics should be modeled. In some cases, this can lead to numerous entries, thus an area weighted R value maybe be used to simplify entries. Where there is zero insulation, an R value of .5 will be used in the area weighted R value. When flat or cathedral ceilings exist, they should be modeled under unfinished attics with the appropriate attic type selected. When proposing adding insulation, auditors will use a maximum depth, not added R value. The maximum depth shall not exceed 13.25 inches (R49). The maximum depth may be less than 13.25 inches if the available space for insulation is less than 13.25 inches.

Finished Attics

Finish Attics contain four attic types: Outer Ceiling Joist, Collar Beams, Kneewalls, and Roof Rafters. The appropriate attic type will be selected. When different R values exist, separate components should be entered. In cases where varying R values lead to numerous entries, an area weighted R value may be used. Unfinished attics (floor/unfloored, cathedral) cannot be modeled in place of finished attic types (outer ceiling joist, roof rafters)

Attics in Low-rise multifamily

In Low-rise multifamily units, attics should only be modeled for units on the top level. When a unit is below another unit, there is no need to model an attic.

Foundations

Foundation entries will account for all conditioned floor areas. Foundation Type will be selected based on the existing conditions. See Framed Floors Over Enclosed Foundations to determine the Foundation Type for Enclosed Foundations. For foundation spaces with floors exposed directly to the outside air such as cantilevered floors, pier and beam, or open crawl spaces, exposed will be selected. Foundation spaces such as slab homes or walk-out basements, slab will be selected. Foundation Height will be measured from within the foundation space. The height exposed is equal to the average height of the foundation wall above grade divided by the total average height of the foundation.

Foundation in Low-rise Multifamily

In low-rise multifamily units, there is no need to model a foundation when the unit is not on the lowest level or is above another unit. When a unit does have a foundation space below, the foundation space should be modeled appropriately.

MHEA Shell

Walls

Enter information as it pertains to the original home, NOT additions.

Enter the gross area of the wall in square feet that is not eligible for insulating. There is no need to adjust for doors, windows, or studs. Be sure to enter the dimensions of carports and porches when they exist.

Windows

Windows will be modeled accurately. Windows of the same construction and characteristics may be grouped together. The window code shall indicate each window in said entry. For example, if window 1 and window 3 are modeled under one entry, the window code shall reach W1:W3 and the corresponding wall shall have 2 windows assigned to it. Windows will be proposed as ECMs or as IRMS when justified to aid or protect an installed ECM. When windows are deteriorated beyond repair and supplemental funding will be used to replace them, the Replace Window and Required boxes will be checked.

Typically, the cost of windows is calculated based on the United Inches. WAweb utilizes the square footage of windows to calculate the cost. In order to calculate an accurate price, the price of window replacements shall be entered as $1/SqFt. The square footage of the window will then be subtracted from the overall cost of the window replacement, and the remaining difference will then be entered into the Additional Cost section with a comment stating the total cost of the window replacement. For example, if a window is 20sf and costs $400 to replace, a cost of $380 will be entered into the Additional Cost box. The same process will be used for storm windows. Note: all windows included in a single entry will be proposed for the same upgrade.

Doors

Doors will be modeled accurately. If multiple doors of the same construction, size and characteristics exist on the same wall, they may be modeled together and the "number of doors facing" shall reflect the number of doors. The door code shall indicate all doors included in this entry. For example, if door 1 and door 2 are modeled in one entry, the door code shall reach D1:D2. Doors may be proposed as an ECM or as an IRM when justified to preserve or protect an installed ECM. When doors are deteriorated beyond repair and supplemental funding will be used to replace them, the Replace Door Required box will be checked

Ceiling

There is only one entry for ceilings in MHEA. Due to this, when different R values exist, an Area Weighted R Value must be used. In turn, the area weighted R value must then be converted to depth in inches. On pitched roofs, subtract this depth from the height of the ceiling cavity at center, and this will equal the insulation to add at center. On bowstring roofs, simply enter the height of the roof at the center ignoring existing insulation. On flat roofs, the joist size will determine the cavity size. The cathedral percentage shall be calculated based on the footprint. For example, in a 1,000SqFt home, if the cathedral portion is over 400SqFt of conditioned floor area, the cathedral percentage shall equal 40%.

Floors

The floors sections begins by identifying the direction of floor joist, typically widthwise. If skirting is present, the skirt present box should be checked. On the wing description, batt/blanket insulation is located between the joists. The existing joist size and depth of the batt/blanket and loose insulation shall be entered. Typical belly configuration is typically rounded and draped below the joists. The existing joist size and batt/blanket insulation and loose insulation thickness shall be entered. Belly repairs may be included in the overall cost as an incidental cost (entered into the Itemized Cost section) or included in the cost of belly insulation as an ancillary cost (entered into Additional Cost in the Floor section).

Systems

HVAC

- All primary mechanical equipment must be modeled as accurately as possible.
- Backup and auxiliary systems should only be included if the ”Load Served %” would be over 10%. Generally, the ”Fraction of Load Served” is determined by selecting the estimate box. This can be manually adjusted at the auditor’s discretion.
- Model each piece of equipment individually (i.e. the number of units should equal 1).
- Thermostat setpoint temperatures are standardized at 70 for heating and 75 for cooling.
- Cooling systems and heat pumps may be modeled using the Year Manufactured, or the Name Plate Efficiency. Typically, the Data Tag will have the information necessary to model the equipment. Where this is not the case, the model number can be used to determine the capacity, typically in kBtu. The serial number can also be used to research the necessary information about the manufacturing date. Websites such as https://www.building-center.org/brand-histories can be a great resource for this.
    - In cases where Nameplate Efficiency is used, it is allowable for auditors to perform their own Derating Calculations. This should be calculated in SEER and all documentation should be maintained.
- Heating systems may be modeled using the Name Plate Efficiency or Site Measured Efficiency.

  - Name Plate Efficiency should be modeled with AFUE for combustion equipment such as natural gas or propane. This efficiency can be calculated by dividing the output capacity by the input capacity.
  - For site measured efficiency, the % should be selected.
- Typically Tune Ups of heating systems are completed as a result of high CO readings and would thus be a health and safety measure. WAweb is able to model these upgrades, so it is also allowable to use the Site Measured Efficiency (also known as Steady State Efficiency) to propose a Tune up to heating systems. Cooling systems are not able to be evaluated for site measured efficiency, thus A coil cleanings shall be ancillary to furnace work. The cost of cleaning an A-coil will be entered in the Additional Cost box and a comment will be made to explain the cost.
- When replacing a heating system as a Health and Safety measure, both the "Replace the Equipment" and "Required" boxes will be checked. The "Include In SIR" box will NOT be checked. Cooling Systems are not allowed as an H&S measure.
- When replacing a heating system as an ECM, only the Replace the Equipment box will be checked. The "Required" and "Include in SIR" boxes will NOT be checked.
- When replacing cooling systems using non-DOE funds (such as LIEAP option), both the "Replace the Equipment" and "Required" boxes will be checked.

Ducts

- Supply and Returns ducts will be modeled accurately. It is allowable to check the Use Defaults box. When feasible, duct outside the thermal/pressure boundary will be proposed for insulation.

Infil./Duct Leakage

- An accurate, measured blower door value will be entered. A feasible post weatherization Air Leakage Rate will be proposed.
- Duct sealing shall be proposed when ducts are located outside of conditioned space, accessible, and deemed necessary by diagnostic testing.
- In single family homes and low-rise multifamily homes, the whole house blower door method shall be used. Auditors will utilize a pressure pan test to verify the need for duct sealing. A need for duct sealing is defined as a pressure pan reading of over 2Pa. A feasible reduction should be proposed based on the results of the pressure pan test. Auditors should keep in mind that a 300cfm reduction through duct sealing would likely be the result of catastrophic duct failure. A typical reduction would be closer to 100cfm.
- In Manufactured homes, the pressure pan method will be used. Auditors shall record the pressure pan results on the data collection forms. The sum of the pressure pans is entered and a feasible reduction in proposed. The typical target for duct sealing is 2pa.

- In both methods of evaluating for duct sealing, the Duct Operating Pressure before duct sealing will be 25Pa and after duct sealing will be 30Pa in all cases. The house pressure difference should be 50Pa in all cases.

Baseloads

Water Heating

- The existing water heating equipment shall be modeled accurately. When feasible, it will be proposed for replacement as an ECM.
- Unless documented otherwise, the following Energy Factors will be utilized. Where age cannot be determined, manufacturing date should be assumed after 2015.

	Gas	Electric
Before 2004	.525 EF	.864 EF
2004-2014	.575 EF	.904 EF
2015- present	.6 EF	.945 EF

Refrigerator

- All refrigerators being replaced in the home will be modeled together by combining their energy consumption and entering this value into WAweb. The energy consumption of the replacement refrigerators will be combined and used to propose replacement. Multiple units are eligible for replacement as audit approved.
- If one of the existing refrigerators has automatic defrost, automatic should be selected. Nameplate or database should be selected for the source. The age should be selected based on the newer refrigerator. The Door seal conditioned should be selected based on the better of the two.
- Replacement refrigerators must be Energy Star rated or equivalent. Appliances replaced by new units will be recycled or disposed of in accordance with federal, state, or local regulations.
- During the pre-inspection, data collection forms will collect information such as the brand, model number, door configuration, and appropriate capacity of existing refrigerators.
- The estimated energy usage of refrigerators will be researched and documented in the client file. Auditors are encouraged to first search DOE's Refrigerator and Freezer Energy Rating Database Search Tool Model numbers need not match exactly but closely matched model number in similar in size, age, and configuration may be used.
- A highlighted printout or screen shot of the information utilized will be included in the client file. Internet searches or other reliable information sources may also be used and are likely better resources with equipment newer than 2005.
- Where there are no model matches, or no tag information available on the equipment, as a last resort the Energy Star Calculator may be used to determine

and document estimated annual kWh usage. A printout or screen shot documentation must be included in the client file.

Lighting

- Interior lighting will be modeled in one entry. Incandescent bulbs will be modeled at 60W 3hrs/day, CFL will be modeled at 13W 3hrs/day, and LEDs will be modeled at 11W 3hrs/day. Proposed amounts of bulbs will equal the amount replaced.

Other

Health and Safety

- The Health and Safety input forms will be used at the agency's discretion.

Itemized Cost

- The Itemized Cost sections will be used to track IRMs, HSMs, and GHW measures. IRMs will be entered into the Itemized Costs section with the Measure Name beginning with IRM followed by an accurate measure name; the Include in SIR box will be checked for all IRMs. HSMs will have a name beginning with HSM followed by an accurate measure name; the Include in SIR box will not be used for HSMs. GHW measures will have a measure name beginning with GHW followed by an accurate measure name; the Include in SIR box will not be checked for GHW measures.

Utility Bills

- Utility bills will be entered when modeling small multifamily projects.

2.5.4 Recommended Measures Report

The Recommended Measures (RM) Report is utilized to display the Savings-to-Investment Ratio (SIR) for each proposed ECM. All proposed upgrades must meet the minimum requirements set forth in the Kansas SWS Field Guide, must be suitable for the dwelling, and must follow all applicable KWAP policies and procedures. The omission of potential upgrades is not allowed, regardless of the likelihood of the measure receiving a passing SIR.

All estimated measure costs for the measure must be accurately displayed on the Recommended Measures Report. Incidental Repair Measures, General Heat Waste, and Health and Safety Measures must be entered in the Itemized Cost section and shown on the RM.

2.5.5 Work Scope Development

Approved work scopes are developed based on the results of the Recommended Measures Report (RM) and in compliance with KWAP health and safety and general heat waste policies. Health and Safety, General Heat Waste items, and Incidental Repair Measures are included on the RM and do not require audit approval.

ECM's are to be included on the RM and work scope and installed according to the priority ranking of SIR. In no case may an ECM be installed that has an SIR of less than 1.0, with the sole exception of air

sealing. Installing a measure with a lower SIR without also installing all measures with greater SIRs is not allowed (See Measure Skipping). ECM's not on the RM are ineligible.

The work scope shall be documented on the standardized work order form. ECMs, GHWs, and HSMs will be listed under the appropriate section and the appropriate category checked. IRMs should be listed with the associated ECM and marked as IRMs. Adequate notes describing the location, installation specifications (such as depth, R value, U value, efficiencies, airsealing/duct sealing targets or SWS/Field Guide references) shall be included. The funding source of each measure will be tracked on the Hancock Install list.

When notating air sealing measures, prioritize all top plane air sealing items, and air sealing the attached garage wall as required for ASHRAE 62.2.

It should be noted that some measures approved by the Recommended Measures Report may not be able to be completed if weatherization funds are expended. If there are funding limitations, then measures may be removed from the work order starting with the lowest SIR measure and working up the list from there until the job is financially feasible. However, it is not permissible to omit cost-justified "major measures" vital to the success of the weatherization job. Major measures are as follows: air sealing, duct sealing of ducts outside the thermal boundary, attic insulation, wall insulation, and floor or belly insulation.

2.5.6 Measure Skipping and Partial Weatherization

By rule and policy, energy audits are required to use interactive procedures to determine the optimum set of cost-effective measures and to prioritize those energy saving measures in order of cost-effectiveness. Once approved, all the prioritized weatherization measures from the audit that meet the SIR ratio requirement must be installed in the unit in the order of cost-effectiveness.

Measure skipping of cost-justified 'major measures' is not permitted at any time.

Client education is important to inform a client of planned measures and material use. Resistance from a client to install any measure and/or materials planned as a result of an energy audit-directed work order or priority list should be addressed with additional education. In rare instances, a different, but KWAP acceptable, substitute material may be considered if still cost effective (i.e., sealants or insulation that may cause health irritation). If the client still declines a measure, not defined as a major measure, the auditor may contact KHRC for additional guidance and WPN 23-6 Attachment 8 may be referenced. If the client continues to decline a substitute or if the item is a major measure the job must be deferred due to client refusal.

Inadequate training or ability for a crew or contractor to complete the work item per the SWS Field Guide is not an allowable reason to skip measures.

Partial Weatherization: Once the weatherization work has commenced, the client is not generally permitted to decline an approved measure, or request a measure be skipped. Due to scheduling and on-site logistics, lower priority items are sometimes installed prior to higher scoring measures. If during the installation process, the client declines a higher priority measure, work must stop at the time the client declines the higher priority measure. No further installation is allowed, and the job must be final inspected and closed out as a partially completed unit. This should be clearly explained in the client file documentation. Should the client refuse entry to complete the remaining work scope once work has started, the subrecipient must document the repeated efforts to complete the work and/or conduct a final inspection of the completed work. This documentation must be retained in the client file, recorded in Hancock, and approved by the subrecipient's Weatherization Director. A note shall be added to each

measure installed and not inspected on the audit measure list indicating that no final inspection occurred.

General Heat Waste measures are included on the RM and are allowed to be declined by the client for any reason.

2.5.7 Life Spans

The following life spans will be used in WAweb to calculate SIR.

Measure Type	Measure	Life (yr)
Building Insulation	Foundation wall insulation	20
Building Insulation	Slab insulation	20
Building Insulation	Floor insulation: all types	20
Building Insulation	Rim and Band (sillbox) insulation	20
Building Insulation	Wall insulation: dense pack insulation, rigid insulation, and full cavity batt insulation in fully enclosed air-tight cavities	30
Building Insulation	Wall insulation: all other types	20
Building Insulation	Kneewall insulation: all types	20
Building Insulation	Attic Insulation: blown in and batt	30
Building Insulation	Dense packed roof slopes	30
Building Insulation	Duct insulation	20
Doors and Windows	Storm window	15
Doors and Windows	Window replacement	20
Doors and Windows	Door replacement	20
Ducts/Infiltration	Whole house air sealing	10
HVAC	Heating system replacement: fossil fuel fired furnaces and boilers, standard and condensing	20
HVAC	Heat pumps	15
HVAC	Air conditioner replacement	15
Baseload HVAC	Refrigerator replacement Smart/programmable thermostat	15
Baseload	LED lamps and fixtures	30,000 hours
Baseload	Fluorescent Bulbs	10,000 hours
Baseload	Halogen Bulbs	4,000 hours
Baseload	Water Heater Tank Insulation	13
Baseload	Water Heater Pipe Insulation	13
Baseload	Water Heater Replacement	13
Baseload	Low Flow Showerhead	15
Doors/Windows	Weatherize Windows	10
Doors/Windows	Awnings	10
Doors/Windows	Exterior Shade	10
Ducts/Infiltration	Duct Sealing	10
HVAC Systems	Heating and Cooling System Tune up	3

2.5.8 Fuel Switching

KWAP does not permit the general practice of non-renewable fuel switching when replacing furnaces/appliances. However, DOE does allow the changing or converting of a furnace/appliance using one fuel source to another on a limited, case-by-case basis. These approvals will only be granted when all related costs demonstrate the effectiveness of the fuel switch over the life of the measure. Agencies seeking fuel switching must request approval from KHRC and provide a site-specific energy audit for review. KHRC will review the information on a case-by-case basis and submit it to DOE as necessary. Fuel switching may be allowable for other available funding sources. Contact KHRC for additional information.

Potential fuel switching scenarios may include:

- When gas meters have already been removed.
- When bulk propane tanks or lines have already been removed or need substantial repairs/replacements.
- When the gas/propane furnace is no longer operational, and needs replaced AND all other systems are already electric (water heater, stove, dryer).
- When the water heater is the only gas equipment in the home and repairs or replacement to the flue/tank are necessary, converting to a heat pump water heater can be considered.

2.6 Eligible Measures, Core Measures, General Heat Waste Measures, and Incidental Repairs

2.6.1 Eligible Measures

Prioritization of weatherization measures to be performed on a dwelling unit have been established per 10 CFR 440.21, Standards and Techniques for Weatherization. Energy audits will be conducted on each dwelling unit covered by the state's weatherization program. Energy conservation measures (ECMs) approved in Kansas, as justified by an individualized WAweb audit, H&S policy, or GHW list, may include:

- Insulating foundation walls up to R-19
- Insulating slab edge insulation up to R-10
- Insulating frame floors over unconditioned areas up to R-30
- Insulating cantilevered floors over ambient air up to R-30
- Insulating rim joists up to R-13
- Insulating side wall cavities (dense pack and/or batt as applicable)
- Insulating attic knee-walls up to R-19
- Insulating attic floors up to R-49
- Dense packing roof slopes cavities

- Installation of interior or exterior storm windows over single-glazed windows
- Replacing primary windows
- Replacing exterior grade doors
- Measures to reduce air infiltration
- Insulating ductwork to a minimum of R-8
- Tuning heating equipment
- Replacing fossil fuel fired heating equipment
- Replacing electric HVAC systems with heat pumps
- Replacing air conditioner
- Installation of a smart thermostat
- Refrigerator replacement
- Installation of LED lamps and fixtures
- Installation of Water Heater tank insulation
- Installation of Water Heater pipe Insulation
- Installation of Low Flow Showerheads
- Installation of Exterior Window Shading
- Diagnostic combustion appliance testing.
- Necessary health and safety repairs.
- Necessary repairs or replacement of water heater.
- Installation of other measures necessary to protect installed weatherization materials.

General heat waste measures: water heater tank wrap, water heater pipe insulation on the first six feet, water pipe insulation in unconditioned areas, low-flow faucet aerators, low flow showerheads, replacement of furnace or air conditioner filters.

2.6.2 **Major Measures**

Health and Safety Measures- Health and safety hazards which are necessary before, or because of, the installation of weatherization activities must be addressed.

Heating system safety and efficiency inspections and repair – All heating systems must be completely inspected at the pre- and post-inspection. All unsafe or inoperable units must be made safe, removed, repaired, made operable, or replaced prior to any weatherization work.

Air Sealing Measures- Air sealing shall occur on all weatherized homes as cost effective. Air sealing locations must be identified with a blower door, by visual inspection, or a combination thereof.

Duct Sealing- Duct sealing of ducts outside the thermal boundary shall occur on all weatherized homes where physically accessible as deemed necessary by diagnostic testing (pressure pan testing, target of 2 pascal or less in site built, 1 pascal or less in Manufactured homes) and cost effective.

Thermal Boundaries – Thermal boundaries shall be aligned and in contact with the building envelope. Insulation levels shall be increased to the Kansas SWS Field Guide recommended levels if structurally allowable and audit approved.

Attic Insulation- Insulate attics to R-49 as allowable by the audit.

Sidewall Insulation – Dense pack wall cavities to R-13 or maximum structurally allowable as approved by the audit.

Knee walls- Insulate knee walls to R-19 or maximum structurally allowable as approved by the audit. Seal applicable key junctures in knee wall areas.

Foundation Insulation- If applicable, foundation walls should be insulated to a minimum R-19 as approved by the audit. If applicable, rim and band should be insulated to a minimum R-10 as approved by the audit.

Floor Insulation- If applicable, framed floors should be insulated to R-30 or maximum structurally allowable as approved by the audit.

2.6.3 General Heat Waste Measures

General Heat Waste (GHW) reduction measures are weatherization related improvements that are generally considered cost effective and do not need justification in a site-specific energy audit. GHW measures are intended to be relatively low-cost items that can be quickly and easily installed. Total GHW measure costs, including labor, will not exceed $250, unless audit approved. The following GHW measures are presumed to be cost effective, and their installation is permitted wherever they are appropriate and not already present. Auditors and crews should be diligent of circumstances that can reduce the cost-effectiveness of these measures.

- Water heater wrap (i.e., insulation blanket) conforming to the Standard Work Specifications. (Unless prohibited by the manufacturer's warranty)
- Water heater pipe insulation on the first six feet of inlet and outlet piping conforming to the Standard Work Specifications.
- Faucet aerators
- Low-flow showerheads
- Limited weather stripping and caulking to increase comfort (does not include major air sealing work, which should be guided by blower door testing)
- Furnace or air conditioner filters
- Pipe insulation on water lines when located outside the thermal boundary

LED lighting technology is not allowed as a GHW measure and must be individually audit-approved.

If GHW costs are anticipated to exceed the $250 GHW cap, contact KHRC for guidance and provide a copy of the WAweb building file and estimated costs.

2.6.4 Ancillary Items and Incidental Repair Measure (IRM)

Ancillary Items are items necessary for the proper installation of weatherization materials as required by materials manufacturers, general construction, and/or WAP field standards to achieve a finished product in a typical installation where no unusual or extensive repairs are needed. The cost of ancillary items and their installation shall be included within the cost of the associated ECM when calculating the SIR for the individual ECM.

An incidental repair is a repair necessary for the effective performance or preservation of newly installed weatherization materials, but not part of a standard installation. IRM installations must be associated with a specific energy conservation measure (ECM) or group of ECMs. IRMs must be justified by written and photo documentation in the client file. IRMs are those materials and installation costs which are necessary for the effective performance or preservation of an energy conservation measure and are part of the total allowable expenditure. WAP funds shall not be used to install IRMs solely to protect existing materials in the dwelling.

Incidental repair costs do not receive individual audit approval. IRM cost must be included in the SIR calculation of the total package of weatherization measures. The total package of weatherization measures must yield a cumulative SIR of 1.0 or higher.

All incidental repair costs shall be documented as such in the client files, including a photo, and tied to an energy conservation measure.

A description of the work performed as an incidental repair must be included in the Itemized Cost comments section of the energy audit.

2.6.5 Field Standards Waiver

Minor deviations from this Weatherization Manual or major deviations from the Kansas SWS Field Guide require a Field Standards Waiver from a KHRC Weatherization Program Technical Representative or Monitor prior to the expenditure of funds. Field waivers are to include all relevant information such as mechanical inspection forms, sizing reports, (for HVAC waivers), photos, bid results/procurement, and/or an explanation of why a waiver is being requested. An electronic or hard copy waiver documenting authorization will be forwarded and kept in the client's file.

For example, waivers are necessary for agencies to exceed the Health and Safety Cost for furnace replacements. See Mechanical Systems and Other Space Heating Systems

Minor installation deviations from the Kansas SWS Field Guide may be authorized by subrecipients and inspection staff but must be sufficiently documented in the client file.

2.7 Energy Crisis and Disaster Response Plan

KWAP allows a great deal of flexibility in its program under normal operation. KWAP subrecipients may consider any household an emergency that has no working furnace or whose furnace is tested unsafe, or that demonstrates its energy costs constitute a high burden, or whose energy consumption is unusually high. Classification as an emergency enables a subrecipient to place that household at the top of the list for weatherization services.

During an energy crisis, as issued by federal, state, or local officials, such as one caused by rapid increases in fuel costs, subrecipients have the opportunity to use existing procedures to prioritize weatherization for income qualified households within the impacted territory. Households with no heating unit, households with unusually high energy costs, households with certain health and safety problems, or households with other emergencies such as extremely leaky homes, may be prioritized as a second consideration to the priorities set forth in section 2.2.8

As an emergency during an energy crisis, the KWAP subrecipient may make emergency repairs, including furnace replacement and repair of serious air leaks, and schedule other needed repairs at a later date. If at all possible, the subrecipient should complete the emergency units within the current program year. If it is not possible, however, the State will work with the subrecipient agency to assure the work can be completed during the following program year.

The State will allow subrecipients to purchase or lease temporary heating sources for use in energy crises. Subrecipients may use program funds for storage of the units and to increase liability insurance, as needed. Subrecipients will be responsible for maintaining the safety of the units.

As needed, the State may redirect funds from T&TA to provide additional allowable measures required to meet an energy crisis.

2.7.1 Kansas General Disaster Response Plan (Reference WPN 12-7):

Policy: For weatherization purposes, a disaster is determined by a Presidential or Gubernatorial order declaring either a Federal or State Emergency. The crisis may be naturally occurring or man-made and generally will involve at least three phases: the crisis itself, the clean-up, and the rebuilding of the affected area. It is not uncommon for weatherization work to be suspended during the crisis and early clean-up phase until basic community services such as electricity, water, food, and medical supply activities can be returned closer to normal.

The disaster time period may be from several days to a month or more and this period can have a critical impact on program operations.

This “General Disaster Response Plan” addresses the needs of the affected low-income clients and also takes into consideration the limited funds available in weatherization.

A General Disaster Response Plan will include:

- contact and coordination with the appropriate disaster site leadership in charge to explain the role and resources that weatherization can provide.
- availability and use of grantee and/or subrecipient staff, equipment and resources.
- consideration for the preservation of subrecipient weatherization files, records, materials, and equipment if they would be at risk.
- notifying a DOE Project Officer as soon as possible regarding the disaster. KWAP is to contact DOE staff by telephone, then provide a follow-up in writing (email is fine). Discussion by telephone allows DOE staff to explore ideas and options that may be available using weatherization resources and begin to explore whether the currently approved State plan adequately addresses the circumstances and possible proposed actions.
- assessing the circumstances, and determining the need to develop and submit an Event-Specific Disaster Response Plan, and assessing the needs of the affected subrecipients, and identification

of potential assistance available from other subrecipients in the network that may be willing to volunteer assistance.

- verbal agreements within the scope of the grant can be made to clarify details and expedite early action during the disaster and early stages of clean-up. The grantee shall follow up with DOE staff on verbal understandings and agreements in writing (email) promptly afterward.

2.7.2 Event Specific Disaster Response Plan

The "Event Specific Disaster Response Plan" will provide as much of the applicable reporting element information upfront as available and establish the estimated timeframe and end-date for DOE assistance.

It will clearly specify when the reporting will be provided to DOE as part of the proposed disaster plan (i.e., 30 days after the approved end-date for DOE weatherization assistance.) If an extension of the end date is requested, the request will indicate the circumstances and provide updated reporting information.

Examples of Eligible Activities:

1. Reweatherization - The Program Regulation allows any previously weatherized home "damaged by fire, flood or act of God" to be re-weatherized, without regard to date of weatherization, where local authorities deem the dwelling salvageable and habitable and the home is free and clear of any insurance claim or other form of compensation resulting from damage incurred from the disaster.
2. Health and Safety - In the normal course of weatherization or re-weatherization, the cost of eliminating health and safety hazards, elimination of which is necessary before the installation of weatherization materials or the result of weatherization activities, is allowable. To the extent that the services are in support of eligible weatherization work, such expenditure would be allowable. For example, debris removal at a dwelling unit so that the unit can be weatherized would be an allowable cost. Please note that the average cost per dwelling unit limit continues to apply.
3. Incidental Repairs – In the normal course of weatherization or re-weatherization, the cost of incidental repairs for the effective performance or preservation of newly installed ECMs and are not part of standard installation procedures are part of the total allowable expenditure. All incidental repair costs shall be documented as such in the client files and be tied to an energy conservation measure or group of measures. The cumulative SIR shall be 1.0 or above.
4. Protection of DOE investment- Weatherization personnel can be paid from DOE funds to perform functions related to protecting the DOE investment. Such activities include securing weatherization materials, tools, equipment, weatherization vehicles, or protection of subrecipient weatherization files, records, and the like during the initial phase of the disaster response. Using DOE funds to pay for weatherization personnel to perform relief work in the community as a result of a disaster is not allowable.
5. Local agencies may use weatherization vehicles and/or equipment to help assist in disaster relief provided the WAP is reimbursed according to the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards 2 CFR 200.

Priority – It would be permissible to consider households located in the disaster area, as a priority as long as the households are eligible and meet one of the priorities established in regulation and are free and clear of any insurance claim or other form of compensation resulting from damage incurred from the disaster. Inclusion of these households as a priority must be outlined in the Disaster Response Plan.

Summary Statement

Planning and Reporting Elements: If the General Disaster Response Plan is utilized and/or an Event-Specific Disaster Response Plan is approved, the grantee will report to the DOE Project Officer on the use of Weatherization resources and the DOE grant will include, at a minimum:

1. A description of the disaster including the counties/local weatherization agencies affected. It will include the State emergency management website that tracks disasters.
2. A description of the types of DOE weatherization assistance, the scope and costs of weatherization activities performed.
3. The timeframe of the disaster, the date it started, when it was declared a disaster, and the (proposed or approved) end-date for DOE weatherization assistance.
4. An explanation of how disaster-related costs are being tracked by type of activity and summary of DOE disaster-related expenditures and programmatic reporting information. For example, the number of homes and persons assisted under the Disaster Response Plan provisions.
5. Any other applicable items as determined by KHRC or DOE.

Reporting will be sent to the DOE Project Officer by email.

2.8 SUCCESS STORIES

Each agency will be expected to develop two “success stories” that occurred throughout the Program Year. The story should be accompanied with pictures of the dwelling or work in progress and if possible, the unit’s resident. Appropriate consent forms for publication and use of information shall be provided with success stories.

3 HEALTH AND SAFETY PLAN

3.1 HEALTH AND SAFETY

The KWAP stresses the importance of improved client health and safety as one of the primary outcomes of weatherization. The goal for KWAP is to implement cost-effective weatherization procedures to conserve energy and to assess and correct weatherization-related Health and Safety (H&S) hazards for the well-being of clients, their dwellings, and weatherization personnel. With more advanced diagnostics and installation techniques utilized in the KWAP, it is increasingly necessary to take steps to ensure that program measures do not cause or exacerbate health and safety problems for workers or clients.

Health and safety measures are allowed where, cumulatively, they do not exceed reasonable costs, as outlined in the Health and Safety Plan approved by DOE annually in the State Plan, or as approved in individual agency budgets. Health and Safety funds are to remedy health and safety hazards which are necessary before, or because of, the installation of weatherization measures. Health and Safety measures are limited to those hazards that are related to energy efficiency and conservation. Health and Safety measures are allowed to be conducted only where energy efficiency measures are identified for installation.

The Health and Safety Plan in the approved State Plan, the Standardized Work Specifications (SWS), and this section will detail the problems to review, the hazards from various sources, and their interactions with other factors.

3.1.1 Health and Safety Expenditures

Health and Safety funds are to remedy health and safety hazards which are necessary before, or because of, the installation of weatherization materials. These funds will be expended by subrecipients in direct weatherization activities. Expenses charged as Health and Safety measures do not require audit approval and are not to be included as part of the per unit average. Agencies must submit H&S budgets for pre-approval to KHRC. The statewide H&S percentage is set annually and is found in the annual DOE State Plan. State review and approval will be required for any subrecipient exceeding this set amount.

The rationale for performing each H&S measure and its relationship to the effective weatherization of the home must be clear to program staff. Items requiring explanation must be clearly documented in the client file. Deferrals may be necessary if health and safety issues cannot be adequately addressed through this guidance or with the funds available. See section on Deferral Policy.

There are some instances where, depending on circumstances, the measure can be considered either a health and safety measure OR an energy conservation measure (e.g., furnaces). In those instances where the measure has a cost-effective savings-to-investment ratio (SIR) of one (1) or greater, the measure shall be treated as a weatherization efficiency measure.

Incidental repairs are those repairs necessary for the effective performance or preservation of weatherization materials and are not Health and Safety measures and accordingly would not be charged as such. See section on Incidental Repairs. Minor wall and roof repairs to preserve installed insulation shall be deemed an IRM, and not H&S. Minor repairs are those that can be corrected following IRM rules when the cost is associated with the ECM.

Subrecipient agencies must report health and safety material and labor costs separately on the energy audit measures list. The cost of Lead Safe Work Practices (LSWP) is to be tracked and reported separately from the energy conservation measure requiring it and is an allowed H&S expenditure. Total health and safety costs and percentages are to be tracked and managed by the subrecipient.

3.1.2 Client Health and Safety Education

KWAP recognizes the connection between weatherization work and the health of the occupants. Partnerships have been and will continue to be developed between KWAP and other State and national partners.

Continuing education will ensure that there is consistent education and applied prevention techniques used in each household to minimize any negative health outcomes that could result as an impact of the weatherization activities on the families we serve.

Client education has been provided over the years by different methods in each area of the State, ranging from detailed discussions with clients during pre- and post-inspections to access to program-related publications. This includes but is not limited to: lead-based paint, asbestos, combustion safety and venting, carbon monoxide, mold and moisture, ventilation, radon, structure hazards, and other hazards. Policy requires a client signed Post Weatherization Maintenance Recommendations and Client Education form in the client file.

As the program has become more technology-oriented, State staff encourage subrecipient staff to use the technology to demonstrate energy-saving techniques and to explain the outcome of poor energy habits, bad energy decisions, and potential household hazards.

3.1.3 Client Health and Safety

KWAP staff and contractors will be required to take all reasonable precautions against performing work on homes that will subject workers or clients to health and safety risks. See section on Occupant Pre-existing or Potential Health Conditions.

Before work begins on the residence, the agency/contractor must take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants.

Subrecipients will provide a “Occupant Pre-Existing or Potential Health Conditions” form to the client which explains that some weatherization measures create dust, smells, or other conditions that may aggravate certain health conditions in some individuals. The client will then have the opportunity to self-identify any pre-existing or potential health concerns that may be aggravated by weatherization services.

Agencies, and contractors, are to take into account the client’s concerns to the extent feasible to minimize health risks, such as scheduling weatherization work when the at-risk occupants aren’t present. It is the responsibility of the occupants to take the appropriate safety precautions to protect themselves and notify weatherization workers in advance of any health risks they may have. Clients will be provided a point of contact, in writing, so that the client can inform the subrecipient of any new or developing health conditions. Failure or the inability to take appropriate actions must result in deferral.

3.1.4 Crew and Contractor Health and Safety

Weatherization workers must be able to perform weatherization inspections and work without undue threats or conditions which jeopardize their or the client's health and safety. Refer to the Deferral Policy Section for a non-exhaustive list of conditions which may constitute such undue threats. Additionally, all health and safety precautions found in this manual will be utilized to minimize health and safety threats to weatherization workers. See section on Worker Safety.

3.1.5 Hazard Identification and Notification

All homes shall have an assessment performed to identify hazards in the home. Where hazards are identified, appropriate testing must be performed when required by this guidance. When the hazard will lead to deferral, the client/landlord/property manager must be informed in writing of the hazard, and any test results, in accordance with the standard weatherization deferral policy. All client files shall contain a signed Hazard Identification Notification form.

3.2 Deferral Policy

The term "deferral" describes when an otherwise income eligible client cannot receive weatherization services due to certain occupant issues or dwelling characteristics that are beyond the scope of WAP. Deferral may be necessary if health and safety issues cannot be adequately addressed through this guidance. The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. In the judgment of the subrecipients, which include crews and contractors, any conditions that exist, which may endanger the health and/or safety of the workers or occupants, should be deferred until the conditions are corrected. Deferral may also be necessary where occupants are uncooperative, abusive, or threatening. Crews and contractors are expected to pursue all reasonable options on behalf of the client.

Subrecipients will develop guidelines and a standardized form for such situations*. The form will include the client's name and address, dates of the audit/assessment and when the client was informed, a clear description of the problem, conditions under which weatherization could continue, any applicable referrals, the responsibility of all parties involved, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options and have the opportunity to appeal. A copy of the deferral letter must be provided to the client and a copy retained in the client file. All deferred weatherization applications and jobs shall be entered into the Hancock system and the corresponding deferral reason selected from the available options. Deferred clients remain income eligible and do not need to be recertified unless their income certification date lapses. Clients should be provided a list of potential resources or referrals to other programs to assist in correcting the deferral.

*Disclaimer notices are currently in place for: lead paint, mold, asbestos, hazard identification, occupant pre-existing or potential health conditions, and radon.

Deferral conditions may include:

- The client has known health conditions that prohibit the installation of insulation and other weatherization materials.

- The building structure or its mechanical systems, including electrical and plumbing, are in such a state of disrepair that failure is imminent, and the conditions cannot be resolved cost-effectively.
- The house has sewage or other sanitary problems that would further endanger the client and weatherization installers if weatherization work were performed.
- The house has been condemned or electrical, heating, plumbing, or other equipment has been "red tagged" by local or State building officials or utilities and cannot be remedied by weatherization funds.
- Moisture problems have developed signs of significant mold.
- Dangerous conditions exist due to high carbon monoxide levels in combustion appliances and cannot be resolved under existing Health and Safety measures.
- The client is uncooperative, abusive, or threatening to the crew, subcontractors, auditors, inspectors, or others who must work on or visit the house
- The client is verbally abusive to intake or office staff
- The extent and condition of lead-based paint in the house would potentially create further health and safety hazards.
- If, in the judgment of the energy auditor, any condition exists which may endanger the health and/or safety of the work crew or subcontractor, the work should not proceed until the condition is corrected.
- The property has vermiculite insulation. Vermiculite must be professionally removed by a Kansas asbestos licensed contractor.
- The property has suspected asbestos containing materials in less than good condition or where the material is non-intact or where the material may be disturbed.
- The utilities to the property have been disconnected by the utility company.
- The combined price of required H&S measures exceeds the average H&S expenditure to the extent that the agency cannot balance the expenditure to maintain the required H&S percentage. In this instance, the agency may defer the home until additional funds are located to lower the expenditure to within the average.
- The property is currently listed for sale and/or the eligible occupant will be moving.
- The property has a significant remodel in progress.

3.3 Health and Safety Issues or Potential Hazard Considerations

3.3.1 Air Conditioning, Heating Systems, and Combustion Appliances

All mechanical systems will be assessed following the policies and procedures outlined in the Mechanical Systems section.

Required actions:

- Replace, repair, or install primary heating systems when existing primary heating systems are unsafe, inoperable, or nonexistent. No home may be left without a safe primary heating system after weatherization where climate conditions require heating (i.e., all climate zones except zone 1 as defined by ASHRAE). If unable to meet this requirement, deferral is required.

- In Site-Built home, no DOE-funded weatherization work is permitted if the completed dwelling unit will be heated with an unvented combustion space heater as the primary heat source. In Manufactured homes, no unvented space heaters may remain in the home. In Site-Built homes, the primary heat source must be replaced with a vented unit prior to or by weatherization. The replacement unit must be sized to heat the entire dwelling unit.
- Unsafe secondary units, including space heaters, must be repaired, or removed and disposed of, or deferral is required. Secondary unvented space heaters are considered unsafe if they meet **any** of the following:
    - are not listed and labeled as meeting ANSI Z21.11.2.
    - have an input rating of more than 40,000 BTU/hour.
    - are in a bedroom and have an input rating of more than 10,000 BTU/hour.
    - are in a bathroom and have an input rating of more than 6,000 BTU/hour.
    - are operating in an unsafe manner (e.g., high carbon monoxide (CO) readings, too close to combustible materials, lack sufficient combustion air volume).
    - are not permitted by the Authority Having Jurisdiction (AHJ).
- DOE WAP Grantees must comply with the Manufactured Home Construction and Safety Standards which mandate that:
    - all fuel-burning appliances in manufactured homes except: ranges, ovens, illuminating appliances, clothes dryers, solid fuel-burning fireplaces and solid fuel-burning stoves, must be installed to provide for the complete separation of the combustion system from the interior atmosphere of the manufactured home (i.e., to draw their combustion air from outside), and be vented to outside the dwelling.
    - all appliances installed by or left in place after weatherization in manufactured homes must meet these standards, including secondary heating sources. If an occupant will not allow the removal of an unsafe combustion appliance from the home, deferral is required.
    - Repair or replace combustion gas venting to ensure proper combustion gas venting to outside the dwelling for all combustion appliances, including but not limited to gas dryers and refrigerators, furnaces, vented space heaters, and water heaters.
- If weatherization installs an appliance that is vented into a masonry chimney, the chimney must be lined in compliance with the International Fuel Gas Code (IFGC) or local AHJ if more stringent.
- Install adequate combustion air for all new combustion appliances installed by weatherization. Existing appliances will be tested for performance and additional combustion air will be provided as needed.
- If permits are required for heating/cooling system work, they must be secured and are a program operation cost if the installation is an ECM or may be included in the H&S cost if installed as a H&S measure.
- If unsafe conditions relating to existing combustion appliances require remediation to safely perform weatherization and cannot be remedied by repair or tuning, replacement is an allowable H&S measure unless prevented by other guidance herein.
- Documentation justifying the replacement with a cost comparison between replacement and repair must be maintained in the client file.

Allowable actions:

- Unsafe primary units must be proposed for replacement in the energy audit to determine if the system can be replaced as an ECM prior to repair or H&S replacement. If the unit does not qualify as an ECM, the unit will be assessed for repair or H&S replacement. If the estimated cost of repairs exceeds $1,000, the piece of equipment shall be replaced.
- Non-functioning primary heating systems will be inspected to the extent possible for H&S issues and possible repair items. Before any repair, non-functioning units will be proposed for replacement in the energy audit to determine if the system can be replaced as an ECM. The name plate efficiency rating shall be used in the audit tool. This logic potentially allows an inefficient, albeit inoperable, unit to be replaced as an EMC before any repair costs are incurred. If the unit does not qualify as an ECM, the unit will be assessed for repair or H&S replacement. If the estimated cost of repairs exceeds $1,000, the piece of equipment shall be replaced.
- Homes without any heating systems will be reviewed on a case-by-case basis by contacting KHRC before weatherization services begin. KHRC will require the review of pre-inspection and energy audit documents to evaluate if case by case H&S measures are appropriate and allowable for program expenditures.
- Electric space heaters are not considered unvented heaters nor are they considered unsafe heating sources for H&S weatherization purposes. No weatherization funds shall be used for the repair or replacement of electric resistance heaters. Electric resistance heating sources, both forced air and space heaters, should be proposed for ECM replacement with electric heat pumps Portable electric space heaters are not considered permanent heating sources. No home may be left without a **permanent** heating system if DOE funds will be used for weatherizing this home. The alternative is deferral.
- Repair or removal of unsafe primary and secondary solid fuel heating appliances.

Prohibited Actions:

- Using DOE WAP H&S funds for replacement or installation of secondary heat sources.
- Cooling system shall only be replaced as an ECM or as allowed by LIEAP funding. No H&S cooling systems are permitted with DOE funds.

3.3.2 Asbestos

General asbestos removal is limited as a Health and Safety weatherization cost with federal funds. Using federal H&S funds for general abatement, removal, or replacement of asbestos siding, thermal system insulation (TSI), Transite, or vermiculite is prohibited. Major asbestos problems will be referred to the appropriate State agency and/or the Environmental Protection Agency (EPA).

Visually inspect all surfaces (i.e., walls, floors, ceilings, roofs) for suspected ACM prior to drilling or cutting. Assume asbestos is present in suspect materials unless testing reveals otherwise.

3.3.2.1 Asbestos in siding, walls, ceilings, etc.

Where suspected Asbestos Containing Material (ACM) is identified, precautions must be taken not to disturb the material. The ACM's overall condition and potential for disturbing the ACM will be evaluated. Where the ACM condition is good and intact at time of inspection and there is no risk of disturbing the ACM, a blower test can be conducted. Where the ACM is not in good condition, the ACM is not intact, or the ACM may be disturbed, the home will be deferred until the ACM is deemed non-asbestos containing, removed, or encapsulated by a certified asbestos professional.

The existence of slate siding, or other suspected asbestos containing siding, which is in good condition does not require deferral nor prevents the installation of wall insulation. Siding may be removed and reinstalled to perform the ECM, and the associated costs may be charged as part of the ECM. All precautions must be taken not to damage siding. Slate type siding should not be cut or drilled. The use of PPEs and safe practices when working around suspected ACMs as outlined in the SWS's are recommended. Insulating through the interior of the home can be another option. General abatement of siding or replacement with new siding is not an allowable H&S cost.

3.3.2.2 Asbestos in vermiculite

When vermiculite is present, the home will be deferred until the removal of vermiculite by a certified asbestos professional is completed. Testing results are not accepted by KWAP. DOE/LIEAP funds cannot be used for removal or testing.

Clients will be instructed not to disturb the vermiculite and asbestos safety information will be provided.

The deferral language will provide information in writing describing that in order for weatherization to proceed there must be documentation that a licensed professional removed the vermiculite.

3.3.2.3 Asbestos in/on pipes, furnaces, other small covered surfaces

Suspected asbestos containing material present on pipes, furnaces, or other small covered surfaces, shall be assumed to contain asbestos and precautionary measures to prevent disturbing it during the audit and work shall be taken unless testing determines otherwise. The material's overall condition and the potential for disturbing the material will be evaluated. Where the material condition is good and intact at time of inspection and there is no risk of disturbing the material, weatherization work should proceed. Clients and workers will be instructed not to disturb the material. Where the material is in less than good condition, the material is non-intact, or the material may be disturbed, the home will be deferred until the material is deemed non-asbestos containing or removed or encapsulated by a certified asbestos professional. Federal funds may be used for limited (<$1000) testing, encapsulation, or removal of suspected ACM on small surfaces (pipes, ductwork, furnaces, or small covered surfaces, etc.) by an appropriately licensed asbestos control professional if necessary to safely weatherize the dwelling. Testing is not required, and encapsulation and removal may occur of suspected ACMS.

Clients will be instructed not to disturb the suspected ACMs and asbestos safety information will be provided. When weatherization funds are used for testing, the test results will be shared in writing with the client.

When deferral is necessary, the client will be informed in writing of the observed condition triggering the deferral and the actions necessary for weatherization to commence, including the requirement that documentation of work performed must be by a licensed asbestos professional.

3.3.3 Biologicals and Unsanitary Conditions

Removal of mold, odors, viruses, bacteria, unsanitary conditions (including raw sewage), and rotting wood is not a Weatherization responsibility; however, program workers may encounter these conditions. Federal funds may be used for limited (<$1000) remediation of conditions that may lead to or promote biological concerns and unsanitary conditions (e.g., repairing a leaking sewage pipe). Deferral is required in cases where conditions in the home pose a health risk to occupants and /or weatherization workers or may be worsened by weatherization activities (e.g., air sealing) and will not be resolved by weatherization. Caution should be taken when selecting air ventilation rates for dwellings with these problems. Since some of these conditions are related to moisture, procedures that allow local agencies to assess moisture conditions as a part of the initial audit procedure and treat them as part of the weatherization work have been established; see Mold and Moisture. If necessary, weatherization services may need to be delayed until the problem can be referred to another agency that can take remedial action.

3.3.4 Building Structure and Roofing (e.g., roofing, walls, foundation)

Building rehabilitation is beyond the scope of the Weatherization Assistance Program; however, program workers may encounter homes in poor structural condition. Dwellings whose structural integrity is in question should be referred to housing rehabilitation programs where appropriate. Weatherization services may need to be delayed until the dwelling can be made safe for crews and occupants. Incidental repairs necessary for the effective performance or preservation of weatherization materials are allowed. Examples of these limited repairs include sealing minor roof leaks to preserve new attic insulation and repairing water-damaged flooring as part of replacing a water heater. All minor repairs must meet and follow the definition and requirement of incidental repairs.

3.3.5 Code Compliance

The correction of preexisting code compliance issues is not an allowable cost unless triggered by weatherization measures being installed in a specific room or area of the home. When correction of preexisting code compliance issues is triggered and paid for with WAP funds, cite the specific code requirements with reference to the weatherization measure(s) that triggered the code compliance issue in the client file. State and local (or jurisdiction having authority) codes must be followed while installing weatherization measures. Condemned properties and properties where “red tagged” or health and safety conditions exist that cannot be corrected under this guidance must be deferred. Commonly triggered code compliance issues for KWAP include:

- flue liners or resizing of water heater flues when a weatherization installed furnace orphans the water heater. Flue liners and flue corrections are allowable H&S items.
- Federal Pacific breaker boxes are present in Kansas homes and where mechanical equipment replacements are required, this unsafe breaker box must be replaced. This is an allowable H&S expense but typically will require additional non-federal funding.
- the correction of all mechanical code violations may be required when pulling a mechanical permit for the installation of new mechanical equipment. This may include installing a gas line drip leg on water heaters when installing in a new furnace. The correction of code issues when required is an allowable H&S expense.

- electrical code compliance work is allowed when required when installing new ventilation equipment.

The use of weatherization funds for the correction of preexisting code compliance issues not directly related to the installation of specific weatherization measures in the home is prohibited.

The use of weatherization funds for work on condemned properties and properties where H&S conditions exist that cannot be corrected under this guidance is prohibited.

3.3.6 Combustion Gases

All combustion space and water heating appliances will be assessed at both the initial audit and at the post inspection. The most recently approved mechanical inspection forms available will be utilized to record and document the results. Separate mechanical inspections forms will be used for pre- and post-inspections. Separate mechanical forms will be used for each mechanical system. All combustion safety testing will be performed in accordance with ANSI-BPI 1200 standards with the addition of draft testing.

Proper venting to the outside for combustion appliances, including gas dryers and refrigerators, furnaces, vented space heaters, and water heaters is required. Also see Gas Ovens, Stovetops, Ranges.

When testing indicates a performance problem, venting corrections will be made. Prescriptive correction of preexisting venting code compliance issues, or combustion air calculations, are not eligible H&S measures unless a weatherization installed measure triggers code compliance requirements. When correction of preexisting code compliance issues is triggered and paid for with WAP funds, cite the specific code requirements with reference to the weatherization measure(s) that triggered the code compliance issue in the client file.

Follow section Mechanical Systems Section to assess combustion equipment and determine repair or replacement procedures.

Combustion appliances must be deemed safe before weatherization measures are installed and must be documented as safe at the completion of the weatherization work. This requirement applies year-round regardless of whether the equipment is in use.

All naturally drafting combustion equipment within the pressure boundary will be tested with the Combustion Appliance Zone (CAZ) in the worst-case depressurization state. This is required at the initial audit ,final inspection and on any day when work has been done that could affect draft (i.e., air sealing, flue work, adding ventilation).

Fireplaces can present special hazards that may be affected by weatherization. Fireplaces, as well as all solid fuel appliances, should be inspected for visual evidence of soot on the walls, mantel, ceiling, or creosote staining near the chimney/flue pipe. These can indicate combustion/drafting issues. Assess whether the fireplace is a primary heating source, a backup heating source, or merely decorative in nature. Operational fireplaces used for primary heating should have the CAZ zone tested under worst case conditions. CAZ depressurization exceeding 5 pascals in the space having the fireplace should have pressure imbalances corrected, additional combustion air added, or the fireplace disabled. “Ballooning” the chimney of secondary or decorative fireplaces is an encouraged air sealing procedure.

When a fireplace is used for primary heating, other combustion appliances, such as gas water heaters, should be tested under simulated worst-case conditions. A blower door can be set to run at 300 CFM (depressurization) to mimic the likely airflow dynamics when the fireplace is in use.

Worst case depressurization and spillage testing is required for all atmospherically drafting appliances pre and post weatherization using the appropriate and required Kansas mechanical inspection form. Draft testing is also part of our procedures and is compared to the minimum draft required (Temp/40)-2.75. Both warm and cold vented appliances must stop spillage within 2 minutes, meet or exceed the minimum draft requirements, and have passing CO measurements (200 PPM AF for water heaters, 400 PPM AF for furnaces, 450 for ovens).

Daily Test Out Procedures for Crew Based Weatherization:

Crew-based agencies will develop daily combustion testing procedures to ensure safe operation before leaving the home on any day when work has been done that could affect draft (e.g., tightening the home, adding exhaust ventilation).

Any time the air seal/insulation crew performs work on a home, the crew will utilize a smoke pencil or mirror to conduct testing for spillage of any atmospheric draft appliance and measure ambient CO level present in the home prior to leaving the home. This testing will be conducted with all exhaust appliances running. In the event an appliance spills for more than 2 minutes, the appliance will be turned off, allowed to cool, and re-tested under natural conditions. If the appliance fails spillage under natural conditions, or if at any time the ambient CO level in the home exceeds 35 ppm during testing, the appliance will be turned off and the client will be instructed not to operate the appliance until it has been serviced and re-tested by HVAC or authorized personnel and found to be operating safely. Crews will notify HVAC or other authorized personnel that the home needs immediate attention.

Appliances that fail under CAZ depressurization but pass under natural conditions are not necessarily immediate hazards but will be addressed before the final inspection. HVAC or other authorized personnel will be notified to schedule servicing. Residents will be instructed to avoid the conditions causing CAZ depressurization until repairs are completed.

Crew HVAC personnel will test any equipment they service or install. They will also conduct spillage, draft, flue CO, and ambient CO testing on any atmospheric drafting appliances during CAZ worst-case depressurization prior to leaving the home. Testing will follow the same procedures as auditors and inspectors. Hazards that require an immediate response will be addressed during the visit. If unable to correct the issue prior to leaving, the client will be instructed not to operate the appliance until it has been serviced and re-tested by HVAC personnel and found to be operating safely.

3.3.7 Electrical

The two- primary energy related health and safety electrical concerns are insulating homes that contain knob-and-tube wiring and identifying overloaded electrical circuits. Knob-and-tube wiring located in a wall cavity or exposed on an attic floor was intended by code to have free air movement to cool the wire when it is carrying an electric current. Laboratory tests have shown that retrofitting thermal insulation around electric wiring can cause it to overheat, resulting in a fire hazard. For this reason, the installation of insulation around live knob and tube wiring should not be performed. Sidewalls that contain live knob and tube wiring are not to be blown with insulation. In attics, a reasonable cost of rewiring live knob and tube

should be included in the cost of the attic insulation for audit approval. The cost of rewiring will be charged with the cost of the energy conversation measure of attic insulation if audit approved. If the cost of rewiring is prohibitive, the cost of attic insulation shall be run independently and should be valleyed or dammed to prevent covering live knob and tube. Subrecipients are to abide by more stringent applicable codes in jurisdictions where the work is being performed.

Non-contact voltage detection testing is required on knob and tube wiring.

Serious electrical hazards exist when gross overloads are present. Should auditors and crews find such existing problems, they should notify the occupant. Weatherization measures that involve the installation of new equipment such as air conditioners, heat pumps, or electric water heaters can exacerbate previously marginal overload problems to hazardous levels. The problem should also be noted in the client file. To the extent that these problems prevent adequate weatherization, the agency should consider repairing them. Deferral may be necessary.

When the H&S of the occupant or worker(s) is at risk, minor repairs (. e.g., junction box covers) to protect the occupant or workers from electrical hazards in the living area or in the immediate area where weatherization activities will occur are allowed. Minor repairs are those repairs that can be corrected with a maximum $1,000 repair. Electrical upgrades or repairs which are a direct component of an energy conservation measure must be charged as part of the energy conservation measure and cannot be charged to the health and safety budget category. Electrical upgrades or repairs which are part of a H&S furnace, H&S water heater, or H&S ventilation system (ASHRAE) must be charged as part of the associated H&S measure.

3.3.8 Fuel Leaks

Exposed gas lines will be inspected using an electronic combustion gas detector from the utility coupling into and throughout the home. Test all exposed gas lines, valves, connections, and burners for fuel leaks from the utility connection to the appliance throughout the home. Test bulk fuel lines (i.e., propane tanks) and storage tanks to determine if leaks exist. Gas leaks should be verified with a soap solution and marked for repair. When a gas leak is found on the utility side of service, the client must contact the utility service before work may proceed. Fuel leaks that are the responsibility of the client must be repaired before weatherizing the unit. Fixing fuel leaks inside the home are allowable H&S expenses but may be assigned as a responsibility of the client.

Replacement or repair of leaking bulk fuel tanks and/or lines is allowable, if connected systems will remain after weatherization.

Replacement of flexible appliance gas connectors that are not compliant with current fuel gas codes is allowable but not required.

3.3.9 Gas Ovens, Stovetops, Ranges

Replacement of gas ovens, stovetops, and ranges is not allowed.

Gas ovens will be tested for CO following BPI's test procedures. If units exceed 450 ppm air-free at steady state, a clean and tune will be conducted. Clients will be notified if units do not improve after cleaning and tuning and a CO alarm will be installed. Clients will be educated on the importance of using exhaust ventilation when cooking and the importance of keeping burners and broilers clean to limit the production of CO.

3.3.10 Hazardous Material Disposal

Hazardous Waste Materials generated by weatherization work (e.g., refrigerant, asbestos, lead, mercury, CFL lighting bulb/ballasts, etc.) must be disposed of according to all local and federal laws, regulations, and guidelines, as applicable. Costs specifically related to disposal may be charged as an H&S expense.

Subgrantees must document disposal requirements in contract language with the responsible party.

Limited removal (<$1,000) of pollutants that pose a risk to workers is required (e.g., flammable liquids, hazardous chemicals, and other air pollutants) as defined by the Grantee's H&S Plan.

If removal cannot be performed or is not allowed by the occupant, the unit must be deferred.

Using federal H&S funds for lead, asbestos, and radon abatement is prohibited. Using federal H&S funds for any testing of hazardous materials other than that is specifically permitted in the asbestos, lead, and radon sections of this document is prohibited.

3.3.11 Injury Prevention of Occupants

Minor repairs to stairs, steps, railings, etc., are only allowed incidental repairs under the program if necessary to complete the weatherization work. For example, broken steps to the basement where the furnace is located may be repaired if necessary to complete furnace work. Items not necessary for the installation of a weatherization measure are not allowed. Minor repairs made to remedy the issues must meet the definition of incidental repairs and will be charged as incidental repairs rather than H&S.

Necessary repairs beyond the scope of the program will result in a deferral. When deferral is necessary, the client will be informed in writing of the observed condition triggering the deferral and the actions necessary in order for weatherization to commence.

If identified hazardous conditions will not be corrected during weatherization, inform occupant in writing of observed hazards and associated risks utilizing the "Hazard Identification Notification Form."

3.3.12 Lead Based Surface Covering (Paint, Varnishes, Roofing, etc.)

Weatherization work must follow KDHE's Renovation, Repair, and Painting Program (RRP) when working in pre-1978 housing unless KDHE approved testing confirms the work area to be lead free.

All weatherization auditors, inspectors, field monitors and agency crew members must attend and successfully complete a Kansas Department of Health and Environment (KDHE) approved Lead Safe Work Practice Training course and fulfill KDHE requirements to become Certified Renovators.

All general weatherization contractors and agency crews will be responsible for complying with the Lead Based Paint Renovation, Repair, and Painting Rule (RRP) as enforced by KDHE in Kansas. Weatherization contractors and agencies with crews must be KDHE Licensed Renovation Firms. 'General' weatherization contractors are defined as those individuals working on the building shell, such as performing air sealing or insulation measures. HVAC contractors, and other specialty tradesmen such as electricians and plumbers, are not specifically required to have RRP certification nor be licensed renovation firms if they will not be disturbing lead-based paint surfaces. Work must follow KDHE's Renovation, Repair, and Painting Program (RRP) when working in pre-1978 housing unless KHDE approved testing confirms the work area to be lead free.

RRP and Kansas weatherization requires all licensed firms to employ a Certified Renovator who is registered with KDHE. Weatherization jobs will have a designated Certified Renovator on each job site at all times during weatherization activities. The Certified Renovator will document that RRP requirements were followed. Agency crews will include this documentation in the client file. Contractors are responsible to KDHE for completing and retaining proper documentation. Contractors and agency crews will provide a signed Lead Safe Work Practices Declaration form with the certified renovator's signature for the client file for all weatherization jobs. A copy of this documentation is required in the client file.

Only those costs directly associated with the lead safe practices for surfaces directly disturbed during weatherization activities are allowable H&S expenditures.

Using federal H&S funds for lead abatement is prohibited. Using federal H&S funds for purchase, resourcing, or maintenance of X-ray Fluorescence (XRF) devices is prohibited.

3.3.13 Mold and Moisture:

Limited water damage repairs that can be addressed by weatherization workers are allowed when necessary, in order to weatherize the home and to ensure the long-term stability and durability of the measure. Repairs not directly necessary for the installation of an ECM or H&S item is not allowed. Repair costs must be included with the associated weatherization measure.

Source control (i.e., correction of moisture and mold creating conditions) is allowed when necessary in order to weatherize the home and to ensure long-term stability and durability of the measure. Source control is independent of latent damage and related repairs. Source control includes but is not limited to gutters, down spouts, extensions, flashing, sump pumps, minor dirt work for drainage, and landscaping. The installation of dehumidifiers is typically beyond the scope of weatherization and requires a field waiver from the grantee. Major drainage issues are beyond the scope of the program. Source control is allowable only as they relate to mold and moisture creating conditions.

Ground moisture barriers will be installed in accordance with the approved Kansas SWS Field Guide. Ground moisture barriers will be installed over exposed soil in crawl spaces and basement where 2/3 or more of the area is accessible AND the installed portion can be adequately sealed to the adjacent foundation walls. Accessibility is to be determined by the initial auditor. Ground moisture barriers will not be installed where bulk water intrusion/standing water is a concern.

Mold cleanup or testing is not an allowable Health and Safety cost with federal funding. Surface preparation where weatherization measures are being installed (e.g., cleaning mold off window trim to apply caulk) must be charged as part of the ECM and cannot be charged to the H&S budget category. Nonfederal funding may be utilized for mold remediation with KHRC approval.

Where severe mold and moisture issues cannot be addressed, deferral is required.

Auditors will complete a mold assessment and release form for each home. Where mold or moisture issues are identified, clients will receive information concerning the issue and will sign the assessment form.

When source moisture problems are identified, clients will be provided information on them. For example, the importance of cleaning and maintaining drainage systems such as gutters, or how proper landscape design and site drainage impacts moisture control.

3.3.14 Pests

Limited pest removal is allowed only where infestation would prevent weatherization. Limited is defined as one or two treatments and recurring treatment plans are not allowed. Infestation of pests may be cause for deferral where it cannot be reasonably removed or poses health and safety concern for workers. Screening of windows and points of access is allowed to prevent intrusion. Incorporating pest exclusion into air sealing practices to prevent intrusion is allowed as part of the air sealing ECM.

Discretion to defer homes based on pests is left up to the individual auditor and work crews. Auditors are instructed to use common sense to assess the presence and degree of infestation and associated risks. Unsafe or unsanitary conditions are allowable deferral conditions.

3.3.15 Radon

Radon testing and mitigation is not an allowable activity under the weatherization program. However, since radon may be present in all Kansas homes, precautionary measures to reduce the possibility of making radon issues worse are allowable H&S expenditures. Whenever site conditions permit (e.g., no flooding), exposed dirt floors within the pressure/thermal boundary must be covered with an appropriately installed and sealed soil gas/vapor retarder (aka ground moisture barrier). All sump pump wells/pits must also be covered with airtight covers, regardless of whether they are within the pressure/thermal boundary. ASHRAE 62.2-2016 will also be applied, as required. Other precautions may include, but are not limited to, sealing any observed floor and/or foundation penetrations, isolating the basement from the conditioned space, or air sealing unconditioned cellars or crude basements to minimize connection with the living space.

All clients will be provided EPA's *A Citizen's Guide to Radon* and will be required to sign off on a Radon Informed Consent Form.

All client files will have a signed Radon Informed Consent Form. A sample of this form is available on the WAP SharePoint site.

Auditors, assessors, and inspectors will be familiar with the EPA's *A Citizen's Guide to Radon* and will be able to discuss it with clients. They will also know the precautionary measures that may be helpful.

3.3.16 Safety Devices: Smoke and Carbon Monoxide Alarms, Fire Extinguishers

Smoke Alarms: Where alarms are not present or are inoperable, one UL-217 listed smoke alarm will be installed outside sleeping areas and on each habitable floor within every weatherized home. Alarms shall have non-removable, non-replaceable 10- year lithium batteries.

Carbon Monoxide Alarms: Where alarms are not present or are inoperable, they will be installed in all locations dictated by NFPA 72. This includes one CO alarm within 21 feet of all sleeping rooms, in any sleeping room that contains a combustion appliance, and on each occupiable level. Alarms shall be sealed lithium battery unit.

Fire Extinguishers: Fire extinguishers are not an allowable H&S measure.

Existing alarms will be tested for operation and checked for remaining life. New installed alarms will be tested to verify operation.

The Kansas SWS Field Guide provides instructions on alarm installation.

3.3.17 Occupant Pre-existing or Potential Health Conditions

KWAP staff and contractors will be required to take all reasonable precautions against performing work on homes that will subject workers or clients to health and safety risks.

Before work begins on the residence, the agency/contractor must take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants.

Subrecipients will provide an "Occupant Pre-Existing or Potential Health Conditions" form to the client which explains that some weatherization measures create dust, smells, or other conditions that may aggravate certain health conditions in some individuals. The client will then have the opportunity to self-report any pre-existing or potential health concerns that may be aggravated by weatherization services.

A sample of this form is available on the WAP SharePoint site.

Agencies, and contractors, are to consider the client's concerns to the extent feasible to minimize health risks, such as scheduling weatherization work when the at-risk occupants aren't present. It is the responsibility of the occupants to take the appropriate safety precautions to protect themselves and notify weatherization workers in advance of any health risks they may have. Clients will be provided a point of contact, in writing, so that the client can inform the subrecipient of any new or developing health conditions. Failure or the inability to take appropriate actions must result in deferral.

3.3.18 Ventilation and Indoor Air Quality

DOE: For all DOE funded homes, ASHRAE 62.2-2016 minimum ventilation standards are required to be met to the fullest extent possible and are allowable Health and Safety costs. Additional ventilation will be added, or existing ventilation modified where required. When installing a new fan to meet whole-house ventilation requirements, actions will be taken to prevent zonal pressure differences greater than 3 pascals across the closed door. The KHRC provided ASHRAE 62.2-2016 spreadsheet or the ASHRAE 62.2-2016 calculator from the Residential Energy Dynamics (RED) website will be utilized. Client files will contain ASHRAE testing and verification records.

Clients will be provided information on the function, use, and maintenance (including location of service switch and cleaning instructions) of ventilation systems and components. Equipment manuals will be left with the client. Clients will receive a disclaimer that ASHRAE 62.2 does not account for high polluting sources or guarantee indoor air quality.

LIEAP: ASHRAE 62.2–2016 ventilation compliance is recommended but not required for LIEAP. The minimum standard for LIEAP funded projects is ASHRAE 62-1989. A building tightness limit (BTL) will be calculated and included in the client file when using ASHRAE 62-1989. If the measured infiltration rate is below the calculated BTL, ASHRAE 62.2-2016 is triggered and must be applied to the fullest extent possible.

3.3.19 Water Heaters

Water heating systems, i.e., water heaters, can be replaced using H&S funding if one of the following circumstances exists:

- Leaking
- Producing a high concentration of CO

Installation of an on-demand, direct vent, or fan assisted water heater is allowed if the required draft cannot be established after all other considerations. Fuel switching to an electric tank may also be considered but requires a field waiver from KHRC.

See Combustion Gases section for related combustion safety testing requirements.

3.3.20 Worker Safety (OSHA, etc.)

Because of the wide range of activities involved in weatherizing a house, ensuring crew health and safety requires a broad knowledge of the appropriate safety requirements. Some of these requirements include but are not limited to respirator protection, techniques for safely lifting heavy objects, electrical equipment safety, ladder safety, and general worker protection. OSHA standards should be consulted for further details.

Local agencies and contractors must adhere to all federal, state, and local worker safety regulations (e.g., OSHA, KDHE). Local agencies must attend an authorized OSHA 10-hour Occupational Safety and Health Administration Outreach Training program, leading to receipt of a Department of Labor (DOL)/OSHA 10 card. Costs for subrecipients to comply with safety requirements may be charged to T&TA or training within the Program Support. While contractors are not required to obtain OSHA-10 certification, it is considered a best practice.

All Subrecipients and contractors must maintain compliance with the current OSHA Hazard Communication Standard, including on-site organized Safety Data Sheets (SDS) (formerly called MSDS). A copy of a product's Safety Data Sheet (SDS) shall be maintained in each warehouse at a designated location. SDS books shall also be maintained in each agency crew vehicle. Employees must have access to the information in the SDS books.

4 Forms and Sample Documents

Forms and sample documents referenced in this manual, and other useful tools, can be found on KHRC's website at https://kshousingcorp.org/forms/ and on the WAP SharePoint site.

From time to time, forms and sample documents may be added, deleted, amended and/or revised to reflect changes in State or Federal regulations, advances in technology, and/or innovative approaches to weatherization. Subrecipients are encouraged to check this website frequently for any changes. KHRC will notify subrecipients of any major changes.

5 Acronyms

ACPU	Average Cost Per Unit
ANSI	American National Standards Institute, Inc.
ASHRAE	American Society of Heating , Refrigeration and Air Conditioning Engineers
ASTM	American Society for Testing and Materials
BTU	British Thermal Unit

BWR	Building Weatherization Report
CAA	Community Action Agency
CFDA	Catalog of Federal Domestic Assistance
CFL	Compact Fluorescent Lamp
CFR	Code of Federal Regulations
CPA	Certified Public Accountant
DOE	Department of Energy
EPA	Environmental Protection Agency
FAC	Federal Audit Clearinghouse
FAIN	Federal Award Identification Number
FAR	Federal Acquisition Regulation
GAAP	Generally Accepted Accounting Principles
GPM	Gallons per minute
H&S	Health and Safety
HUD	U.S. Department of Urban Housing and Development
HVAC	Heating Ventilation and Air-Conditioning
HWSS	Housing with Supportive Services (Division of KHRC)
IAQ	Indoor Air Quality
IRM	Incidental Repair Measure
KWAP	Kansas Weatherization Assistance Program
KDCF	Kansas Department of Children and Families
KDHE	Kansas Department of Health and Environment's
KHRC	Kansas Housing Resources Corporation
LSW(P)	Lead Safe Work Practices
LIEAP or LIHEAP	Low Income Home Energy Assistance Program
MSDS	Material Safety Data Sheets
NASCSP	National Association for State Community Services
NHPA	National Historic Preservation Act
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PII	Personally Identifiable Information
PO	Project Officer of Federal Award
POI	Pollution Occurrence Insurance
PTE	Pass-through Entity
QCI	Quality Control Inspector
RFP	Request For Proposal
RRP	Lead Based Pain Renovation, Repair, and Painting Final Rule
SAM	System for Award Management
SHPO	State Historic Preservation Office
SIR	Savings Investment Ratio
SPF	Spray Polyurethane Foam
SSI	Supplemental Security Income
SWS	Standard Work Specifications
T&TA	Training and Technical Assistance

TANF	Temporary Assistance for Needy Families
USDA	United States Department of Agriculture
VOC	Volatile Organic Compounds
WAP	Weatherization Assistance Program
WAPTAC	Weatherization Assistance Program Technical Assistance Center
WMS	Weatherization Management System
WPN	Weatherization Program Notice