Alaska Housing
FINANCE CORPORATION

Weatherization Operations Manual

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Weatherization Operations Manual

Outline

Weatherization Operations Manual

Section 1. Policies and Procedures

Introduction

Weatherization is the science of making a dwelling more energy-efficient by making improvements that may result in a return on investment in the form of reduced energy consumption, reduced energy costs, and/or increased comfort and durability of the dwelling. Alaska Housing Finance Corporation (AHFC) makes no representation, either expressed or implied, that any weatherization improvement made to a dwelling will result in cost savings to the dwelling owner or will provide any other benefit to the dwelling occupant(s).

Guiding Principles of the Alaska Weatherization Assistance Program

- Weatherization implements energy-efficiency measures with a Savings to Investment Ratio (SIR) of 1.0 or greater.
- Weatherization does not bring entire homes up to "code," but the measures provided by the Program do comply with applicable codes.
- Measures provided by the Weatherization program must remain in the home. They are not to be sold, bartered, or given away for the duration of their useful life.
- Grantees are responsible for complying with manufacturer guidelines as well as state, federal, and local jurisdiction.
- All work, no matter the condition of the existing home, shall be done in a quality, professional manner.
- Weatherization only assists homes that are "substantially complete" per program guidelines.
- Weatherization does not finish new construction.
- Weatherization is not a home maintenance or rehabilitation program.
- Weatherization is not a "preventative" program; i.e., it does not replace components merely because they are old.
- Weatherization improves ventilation to enable clients to control moisture and pollutants in the home that may be exacerbated by air-sealing.
- Weatherization is not an emergency service/response program.
- Weatherization implements mandatory health-and-safety measures as well as weatherization-related health-and-safety measures that are necessary to install energy-efficiency measures, to provide a safe workplace, and/or to protect clients.

Mandatory Health-and-Safety Measures

The following guidelines must be met in any home assisted with Weatherization funding. (See also Section 5. *Building Standards*.)

1. Smoke Detectors
    a. Recommended: replacement of units over five years old.
    b. Required: replacement of units over eight years old or units that do not operate.
    c. Required: at least the minimum number of units necessary for the home.
2. Carbon Monoxide Detectors
    a. Required: replacement of units over three years old and/or that do not meet Program standards.
    b. Required: at least the minimum number of units necessary for the home.
    c. Required: shall be installed before any work on the dwelling commences.
3. Correction of combustion failures before leaving the home.
4. A whole house ventilation fan is required.
5. A range hood fan over a gas combustion range is required.

After funding mandatory health-and-safety measures, all energy-efficiency measures with an SIR of 1.0 or greater and weatherization-related health-and-safety measures should be considered and implemented as the budget allows.

Grantees are to complete the assigned number of homes—serving high priority clients first as funding and logistics allow—to minimize residential energy consumption in the State. The majority of the budget for each home served should be spent on energy-savings measures to ensure successful implementation of the program.

Weatherization Operations Manual (WOM)

This Weatherization Operations Manual (WOM) provides programmatic guidance for the administration of Weatherization services in accordance with State program policy.

The following terms will be used throughout this manual:

Grantee—a Borough, a non-profit agency, or a Regional Housing Authority that administers Weatherization services; this includes DOE Subgrantees

WX— Weatherization in road-connected/marine highway areas of the state including Southcentral, Southeast, Interior, Richardson Highway, and the Kenai Peninsula.

EWX—Enhanced Weatherization in rural remote communities primarily connected by air; i.e., the Interior villages, Northern, Western, and Southwestern Regions and the Aleutians.

This manual is for AHFC Weatherization Grantees and DOE Subgrantees. It is not intended to detail all guidelines. It must be used in conjunction with the grant agreement as well as any amendments, updates, and clarifications issued by AHFC for effective program delivery throughout the state.

For DOE funding, compliance with the State Plan and Alaska Field Guide also is required. The State Plan takes precedence over all guidance.

Annual Training

Annual training in the proper application of the content of this manual and the grant agreement also is provided to enable Grantees to meet AHFC's expectations for this program.

AHFC may require some or all of a Grantee's and its contractors' employees to attend training by providing at least a ten-day written notification to the Grantee of specific training requirements.

Individuals who do not work for an AHFC Weatherization Grantee should direct questions about the Alaska Weatherization Assistance Program to Weatherization Grantees that serve their communities.

Grantees are to follow the policies and procedures in this manual in addition to current grant conditions. Grantees are advised to keep copies of the current grant and attachments, as well as program updates and clarifications, with this manual.

Section 9. *U.S. Department of Energy (DOE) Guidelines* pertains only to DOE Subgrantees.

Grantees may reformat the appearance of forms provided by AHFC.

Service Districts

Grantees shall provide Weatherization services throughout the year when possible depending on available funding and logistics.

A Grantee shall not weatherize a dwelling outside of its service area(s) specified in the grant agreement without prior written approval from the AHFC Program Manager.

The Grantee will ensure that any grant funds directed to an entity that possesses sovereign immunity, or asserts a claim of sovereign immunity, that entity waives its sovereign immunity with respect to the use of grant funds. The waiver of sovereign immunity will be affected by a resolution from the entity's governing body if needed.

Memorandum of Agreement (MOA)

Notwithstanding the service delivery rules above, Grantees with overlapping service areas are encouraged to negotiate a mutually agreeable Memorandum of Agreement (MOA)—which specifies an alternative service delivery arrangement that provides for greater economies of scale, broader service delivery, and improved program efficiencies—whenever both Grantees plan to provide services to the same community in a given program year. All such MOAs shall be subject to AHFC review and approval.

Rural Remote Communities (EWX)

Grantees shall select those communities that meet the priority listing of AHFC (considering income, cost of fuel, condition of housing, etc.). In the interest of facilitating program outreach, program delivery, and the application process for interested residents, Grantees shall focus their efforts as follows:

- Grantees shall intend to serve all eligible units in an individual EWX community prior to moving on to other EWX communities, except in regional centers where ongoing programs exist.

  By researching and estimating the number of eligible dwelling units in a village in advance, a Grantee can determine whether the village can be served in one year or over several years. Outreach shall attempt to contact every potentially eligible household in the village accordingly.

  When a village will be served in one year, an aggressive effort to contact every potentially eligible household shall be made and documented. Afterward, if households attempt to apply after completion of the outreach and intake efforts, the Grantee will not be under any obligation to serve them separately. The Grantee may choose whether to serve eligible late applicants before leaving the village. This is preferable if the village is not likely to be served again. If freight costs will be higher to improve the homes of late applicants, the number of measures applied to the homes can be reduced. Last-minute jobs often will use materials that would otherwise require expending resources to sell or move to another community. When a last-minute approved household will receive

reduced Weatherization services, the Grantee will inform the household why the program only can provide reduced services and that it is a one-time grant. The household should sign a statement, acknowledging acceptance of reduced services. The reason(s) for providing a reduced project to the household shall be noted in the file.

- Grantees with overlapping service areas shall coordinate their efforts to prevent duplication of services to any one dwelling.

Grantees must notify AHFC of their plans to serve a village in the annual planning process.

Road-Connected/Marine Highway Areas of the State (WX)

In the interest of facilitating program outreach, program delivery, and the application process for interested residents, Grantees shall focus their efforts as follows:

- Grantees shall perform ongoing outreach in these areas while attempting to meet the priority listing of AHFC (considering income, cost of fuel, remote distance to the urban centers, condition of housing, etc.).
- All Grantees with overlapping services areas must coordinate their efforts to provide prevent duplication of services to any one dwelling.

Outreach

All potentially eligible clients shall have equal opportunity to apply for assistance.

The Grantee will design its outreach program to reach, inform, and solicit applications from the target client base.

1. For large, rural service areas, outreach may be targeted to specific communities within the service area to group projects for greater cost efficiency.
2. At a minimum, this will include providing public notice of the program, the Grantee agency, and the process for obtaining an application.
3. Notice should be ongoing as long as funding is available to ensure that priority households are reached.
4. Outreach may be conducted through a variety of means such as, but not limited to, Alaska 2-1-1, Public Service Announcements, press releases, informational mailings, and other forms of advertisements. Enlisting the aid of other entities to post fliers and/or distribute applications at the local level is encouraged. Some examples include Village Councils, senior centers, community organizations, places of worship, employment centers, Fair Housing groups, social service agencies, utilities, general stores, schools, food banks, etc.
5. Publications funded by this grant must include the following disclaimer.

- "This publication was developed and printed through the support of the Alaska Housing Finance Corporation and the U.S. Department of Energy Weatherization Assistance Program. The opinions, findings, and conclusions expressed in this publication are those of the author(s) and are not necessarily those held by the Alaska Housing Finance Corporation or the U.S. Department of Energy."
- If space or budgets limit the size of the publication, at a minimum include the following in the publication.
    - "This program is funded by AHFC and/or the U.S. Dept. of Energy."

AHFC's logo is in Section 2. *Administrative and Eligibility Forms*.

Application Requirements

The Grantee is responsible for ensuring that the application and intake process is accessible, fair, and equitable to all potentially eligible clients. The value of conservation as part of client education should also be an integral part of this phase of the program. The Grantee will review client applications for eligibility, notify clients of their eligibility status, and prioritize eligible applications in accordance with the policies on pp. 1-47 to 1-49.

The application requirements herein provide a Grantee with information to determine the eligibility of a household unit and a dwelling unit or building. The Grantee may design an application that suits its needs but each application should, at a minimum, request the following information:

1. applicant's name and address;
2. dwelling type (single-family, multi-family, mobile home, assisted living, etc.);
3. heating system type;
4. income for the preceding twelve months received by each resident;
5. income total for the household ()residents' income combined);
6. mobile home Serial Number (if applicable);
7. number of residents in the home;
8. ownership or rental status;
9. request for annual fuel usage (actual preferred or estimate);
10. statement signed by the applicant that all information provided by the applicant is true and correct;
11. statement signed by the applicant that the home has not been improved with AHFC Home Energy Rebate Program funds after May 1, 2008;
12. statement signed by the applicant that the home has not been weatherized by a Grantee after April 14, 2008.

The following is required to complete the application for Weatherization services unless indicated optional:

- AHFC Home Energy Rebate Program review (pg. 1-25);
- Application (See *Application Requirements* above and Section 2.);
- Authorization for Release of Information, optional (See Section 2.);
- Fuel Information Release Form (See Section 2.);
- Home ownership verification or certification by Grantee of such information (pg. 1-22)
- Income verification (pp. 1-12 to 1-21);
- Landlord-Tenant Agreement for non-owner-occupied dwelling units, including Life Estates (See pg. 1-26 and Section 2.);
- Map—required for a home without a street address. A photocopy of a map may be used to mark the location of the home; otherwise, a hand-drawn map may be used or written directions;
- Prior Weatherization review (pp. 1-23 to 24); and
- Privacy Act disclosure, which shall be provided to each applicant before an application is processed (See Section 2. *Administrative and Eligibility Forms*);
- SHPO compliance by the Grantee (for State and DOE funds, as applicable; see Section 4. *Historic Preservation*);
- Verification of the year the dwelling was built (pg. 1-23).

Application Review Form

Grantees shall use the *Application Review* form (See Section 2.) to ensure all applications undergo a compliant eligibility review. All Grantees must collect this data and verify supporting documentation to determine applicant eligibility.

Note—for state funds only: An *Application Review* form may substitute for a Weatherization application and supporting documentation when:

1. A household lives in a dwelling constructed and/or operated by a Grantee. This completed form alone may comprise the eligibility portion of the client file only if the Grantee already conducts annual income verifications of the tenant's household. Using this form in place of an entire completed Weatherization application with supporting documentation is intended to reduce redundancy in record keeping within the Grantee's organization. All cross-referenced proofs must meet Weatherization guidelines; or
2. The Grantee is processing a multi-family dwelling that it does not own such as a shelter or low-income housing subsidized by an affordable housing program that uses the 24 CFR Part 5 Definition of income to qualify tenants. Such programs include but are not limited to Section 8, Section 202, Section 811, LIHTC, etc.

The Grantee must obtain verification from the property owner or manager that indicates the total number of units in the building, which units are restricted to low-income tenants, which units are occupied by households that meet the 24 CFR Part 5 Definition of income, and how often these tenants are income qualified or recertified. Only tenant household units that meet the income guidelines for the subsidy may be considered automatically income-eligible for state Weatherization funds. Other tenant households in the building must undergo a full income review if more income-eligible units are needed to qualify the building for assistance. Rental Dwelling Unit policies are explained on pp. 1-25 to 1-32.

Definition of Household Unit

A household unit is defined as all occupants of the dwelling unit.

A full-time student away from home during the school year is considered "living together in the dwelling unit."

A live-in-aide, who is not related to the household and is medically required by a member of a household unit, is not considered a member of the household unit for income purposes.

In the case of joint ownership, income must be included for all owners who are residents of the home. Grantees must verify and document for the file all cases of multiple owners of a home.

Income Eligibility

Income eligibility for state Weatherization funding is based on income limits published by the Alaska Housing Finance Corporation that are current as of April 1 of the program year.

To qualify for Weatherization services, an applicant household’s total income cannot exceed the limit for its size.

It is the responsibility of the applicant to demonstrate eligibility. This is done by informing the Grantee of all income sources and providing required documentation.

Income Review Period

Income eligibility is determined by the annual household unit gross income for the 12 months preceding the month in which an application is completed. Projecting income is not allowed.

Automatic Qualifier (AQ) for Income Eligibility for State Funds Only

A household unit that meets one of the following conditions during the income review period automatically meets income eligibility requirements for state funds only.

AQ-A: The household unit:

1. lives in an owner-occupied, single-family Mutual Help Housing unit constructed and/or operated by a Grantee, which has not been conveyed; and
2. already undergoes an annual income review by the Grantee or the Grantee conducts an AHFC-authorized income review.

AQ-B: An occupant has received APA/IA, ATAP, TANF, SSI, Food Stamps, Low-Income Home Energy Assistance (federal LIHEAP), or DHSS Senior Benefits at least once during the 12 months preceding application approval.

AQ-C: The household includes one resident who is *currently* receiving services under the Medicaid Waiver.

AQ-D: The household unit:

1. lives in a multi-family rental unit not owned by the Grantee, which is restricted by an affordable housing program that uses the 24 CFR Part 5 Definition of income to qualify tenants; and
2. already has undergone an annual income review by the landlord 12 months prior to making application for Weatherization Assistance.

Household units that have not received an AQ during the income review period must undergo a full income review.

Definition of Household Unit Income

Household unit income is based on the gross income received by members of the household unit. Assets are not reviewed to determine eligibility, only any countable income a resident receives from assets during the income review period.

This includes the following:

1. Alimony,
2. Dividends, except the Alaska Permanent Fund Dividend,
3. Government employee pensions (including military retirement pay),
4. Interest,
5. Military family allotments,
6. Money, wages and salaries before any deductions,
7. Net gambling or lottery winnings

8. Net receipts from non-farm or farm self-employment (receipts from a person's own business or from an owned or rented farm after deductions for business or farm expenses),
9. Periodic receipts from estates or trusts,
10. Private pensions,
11. Railroad retirement,
12. Regular insurance or annuity payments,
13. Regular payments from Social Security (retirement, disability, Supplemental Security Income, Survivor's Benefits, etc.),
14. Rents (net rental income) [See exclusion #18 on pg. 1-14.],
15. Royalties (net),
16. Strike benefits from union funds,
17. Training stipends,
18. Unemployment compensation,
19. Workers' compensation, and
20. Veterans' payments.

Income does not include the following:

1. Any assets drawn down as withdrawals from a bank;
2. Capital gains;
3. Child Support;
4. Combat zone pay to the military;
5. Depreciation for farm or business assets;
6. Dividends from Native Corporations:
    a. For each person who received $2,000 or more during the income review period, deduct $2,000 from the total received;
    b. For each person who received less than $2,000 during the income review period, exclude the total received;
7. Earnings of full-time high school students or post-secondary students enrolled in at least 12 credit hours during the income review period;
8. Exxon Valdez Oil Spill Settlement;
9. Federal Economic Stimulus Payments;
10. Federal non-cash benefits such as Medicare, Medicaid, Food Stamps, school lunches, and housing assistance;
11. Food or housing received in lieu of wages, including the value of food and fuel produced and consumed on farms;

12. Gifts;
13. Imputed value of rent from owner-occupied non-farm or farm housing;
14. LIHEAP payments;
15. Loans;
16. Lump-sum inheritances;
17. Military Family Allotments—Basic Allowance for Quarters (BAQ), Basic Allowance for Subsistence (BAS), Cost of Living Allowance (COLA), Family Separation Allowance (FSA), and Variable Housing Allowance (VHA)
18. Money an owner-occupant receives from one or more roommates for rent or utilities;
19. Non-cash benefits such as the employer-paid or union-paid portion of health insurance or other employee fringe benefits;
20. One-time insurance payments or compensation for injury;
21. One-time payments from a welfare agency to a family or person who is in temporary financial difficulty;
22. One-time withdrawals from an investment account (The client must certify this is a one-time withdrawal.);
23. Payment for foster children or foster care adults or adoption subsidies (including "Elder Mentors/Foster Grandparents Senior Companions");
24. Reverse mortgages;
25. Sale of assets such as property, house, or vehicle;
26. Scholarships for college or university; and
27. Tax refunds.

Calculating Income

Verification of income for the entire income review period is required. When documentation of income for the entire income review period is not available, the intake person shall identify for the record missing documentation and the reason(s) why.

When complete documentation is not available, documentation for a shorter period may be annualized. For example, a one-week check stub amount must be multiplied by the number of weeks worked in the year, or a one-month income statement amount must be multiplied by the number of months received.

Overtime and tips are added to annualized income.

A one-time payment is not annualized by multiplying by another number.

Note— for state funds only:

- A review of income received during the entire income review period is preferred. However, in the interest of efficient program administration, Grantees may choose to review a household's federal tax return(s) for the preceding calendar year to determine household unit income. This method for calculating income may be used to qualify a household for the current Weatherization Program Year only. Determining household unit income based on prior year federal tax returns may expedite initial application processing. However, this method of determining income-eligibility may shorten the length of time before an application must be reverified. (See Income Reverification on pg. 1-21.)
- All household units that receive an automatic qualifier (AQ) during the income review period meet the income guideline for Weatherization services. The Grantee will have proof of the type and date of receipt of the AQ for the recipient in the client file. A full income review is not required but an estimate of total household unit income must be recorded in the client file. The estimate may be provided by the applicant or determined by the Grantee.
- For the purposes of determining income eligibility and prioritizing households per the guidelines on pp. 1-47 to 1-49. Grantees shall calculate income and attempt to qualify all households as follows:
    1. If the household receives an AQ, calculate total income based on gross (or use an income estimate).
    2. If the household does not receive an AQ, calculate total gross income based on the household's tax return(s) or other acceptable proofs.
    3. If the household's gross income exceeds the limit for its size, calculate total income based on adjusted gross income on the household's tax return(s). These households shall not be prioritized as 1s, 2s, or 3s.

Required Income Documentation

Copies of income documents shall be made whenever possible. When a photocopier is not available to copy income documentation, a Grantee's intake person reviewing the documentation shall certify to observing the documentation used for the income calculation, noting the source of income, the date last received, gross amount, and term (one week, monthly, quarterly, etc.).

To meet the documentation requirements for different sources of income, the following paragraphs list alternative documents, listed in order of preference. One of the alternatives listed for a given source of income must be used. Other alternatives may be acceptable upon obtaining prior approval from the AHFC Program Manager.

Automatic Qualifier (AQ) for Income Eligibility

Verification of receipt of an AQ during the income review period must be in the client file.

AQ-A: Completion of the Weatherization *Application Review* form (See Section 2.)

AQ-B: 1. a copy of a current check, check stub, or bank statement, or bank direct-deposit slip indicating the recipient, amount, source, and date received; or

2. a copy of a current statement of benefits from the Division of Public Assistance (DPA) or the Tribal TANF provider. Note: DHSS Senior Benefits may appear under the heading "GA" on DPA printouts and should not be confused with General Assistance, which is not an AQ. When in doubt, ask DPA staff to indicate that the "GA" benefits reported are in fact DHSS Senior Benefits.

AQ-C: Verification from the resident's care coordinator or benefits provider that includes the recipient's name and current date and states that the recipient *currently is receiving services through the Medicaid Waiver*.

AQ-D: Completion of the Weatherization *Application Review* form (See pp. 1-10 to 1-11 and Section 2.) This is contingent upon the Grantee researching the owner's method of verifying demographic and income data and determining that the owner's methods meet the requirements of Weatherization. In this case, the completion of the *Application Review* form for each tenant household that qualifies under the 24 CFR Part 5 Definition of income is acceptable. Under no circumstances may a Grantee follow this abbreviated method of intake verification and record keeping for a property it does not own without prior approval from the AHFC Program Manager. For tenant households that do not qualify under the 24 CFR Part 5 Definition of income, a full income review is required.

Alimony

1. Copy of the most current alimony check; frequency of receipt also must be stated if alimony is received uninterrupted and in a consistent amount; or
2. A signed applicant-declaration attesting to the amount and frequency of payments for a minimum of the last 13 weeks when:
   a. the applicant receives alimony in the form of cash; or
   b. the applicant has not received the correct amount of court-ordered payments; or
   c. the payments received are mutually agreed upon by the applicant and former spouse without court action; or
3. A current notarized letter from the applicant's former spouse attesting to the amount and frequency of payments; or

4. A copy of current court order (or most recent amendment) indicating the current amounts paid and frequency; or
5. A letter from the attorney of record or legal agency representing the applicant, stating amount and frequency of current payments.

Employment

1. Copies of pay stubs (identifying the recipient by name or Social Security Number) that indicate the gross income; the most recent pay stub is all that is required if it shows year-to-date gross income; when pay stubs that show the income for the full 12-months are not available, pay stubs received during the income review period may be used to annualize the income; or
2. W-2 forms and a signed statement or other indication of the length of employment (Note: Use the amount in Box 1 on the W2.); or
3. A verification from the employer on the employer's stationery or standard form or a form prepared by the Grantee stating the amount of gross wages for the income review period. The verification should indicate the date on which employment began and, if applicable, terminated; or
4. Other documentation may include copies of tax forms, Public Assistance and Department of Labor statements, or an employer's payroll report.

Interest

1. A copy of a recent check, check stub, or statement, indicating the amount and source; or
2. A copy of a 1099 or tax return; or
3. A Grantee-prepared form completed by the income source containing current information.

The majority of household units report no interest earnings or less than $100 annually. The source typically is an interest-bearing savings account. In these cases, Grantees may annualize interest earnings of $100 or less when a significant change is not expected during the income-review period, and:

- Acceptable proof of interest earned year-to-date is received for a part of the income review period; or
- A copy of the recipient’s 1099-INT or tax return is received for the preceding calendar year and shows interest received during part of the income review period.

Military Family Allotments—Basic Allowance for Quarters (BAQ), Basic Allowance for Subsistence (BAS), Cost of Living Allowance (COLA), Family Separation Allowance (FSA), and Variable Housing Allowance (VHA)

1. Copies of pay stubs (identifying the recipient by name or Social Security Number) that indicate the gross income; the most recent pay stub is all that is required if it shows year-to-date gross income; when pay stubs that show the income for the full 12-months are not available, pay stubs received during the income review period may be used to annualize the income; or
2. Copies of W-2s and a signed statement or other indication of the length of employment; or
3. A verification from the employer on the employer's stationery or standard form or a form prepared by the Grantee stating the amount of gross wages for the income review period. The verification should indicate the date on which employment began and, if applicable, terminated; or
4. Copies of Leave Earning Statements provided by the service member.

Pension, Retirement

1. A copy of a recent check, check stub, bank statement, or bank deposit slip, which shows the amount and source, or a statement with all deductions indicated; or
2. A current letter (within 12 months) from the pension source stating type, amount, frequency, and effective date of benefits; or
3. A copy of a Grantee-prepared form completed and dated by an authorized benefit official, containing current benefit information; or
4. A copy of a 1099, or
5. When documentation is not available in a timely manner, a certification from the client or Grantee intake person that the gross benefit is not subject to change annually is acceptable in addition to one of the above proofs.

Public Assistance—Adult Public Assistance/Interim Assistance (APA/IA), Alaska Temporary Assistance Program (ATAP) / Tribal Temporary Assistance to Needy Families (TANF), Food Stamps, and DHSS Senior Benefits

1. A copy of current check, check stub, or bank statement, or bank direct-deposit slip indicating the amount and source; or
2. A copy of a current Division of Public Assistance (DPA) statement of benefits or statement of benefits from the Tribal TANF provider.

Self-Employment

1. Self-employed individuals must provide copies of current IRS tax returns. If this is not possible, clients must call the IRS at 800 428-4732 and request their tax account information. A letter from the IRS will be sent to the client. The client must provide this letter to the Grantee for inclusion in the client's file. Alternatively, the client can sign IRS Form 4506T, identifying the Grantee as the third party.

   The following IRS prior year tax returns are required for the listed type of business:

   - **Sole Proprietorship**. Form 1040 complete with Schedule C "Profit or Loss from Business or Profession,"
   - **Partnership.** Form 1040 with Form 1065 "Partner's Share of Income, Credits, Deductions, etc."
   - **Corporation.** Form 1120, "U.S. Income Tax Return for an S Corporation" if the client is the entire corporation; IRS certified prior year tax Form 1040 with Form 1120 and Schedule K-1, if the client is only a shareholder in the corporation.

2. In addition to any forms required above, a Grantee may seek further supporting documentation (such as a checkbook, accountant's records, business records, etc.) to verify tax form amounts or to provide current income and expenses when the end of the most recent tax year is more than 6 months past. The Grantee also may require documentation of specific business deductions if there is a question about a deduction.
3. Applicants who perform miscellaneous "odd jobs" such as shoveling snow should show documents to support this income with a certified listing of type and date of jobs performed, names and addresses of persons for whom work has been done, and payments received. Grantees may ask such applicants to provide checking, savings, or other bank records or bankbooks to verify the applicant's income statements or tax return.

Social Security—Retirement Benefits, Disability Insurance (SSDI), Supplemental Security Income (SSI), and Survivor’s Benefits

1. A Social Security statement, letter, or Social Security Administration-generated printout indicating current gross monthly benefit amount (including any Medicare premium). The recipient can call 800 772-1213, to request a printout to submit to the Grantee; or
2. A copy of a current check, plus any Medicare premium being withheld; or
3. A statement from the recipient’s bank or a copy of a bank direct deposit slip indicating the amount and source of the deposit, plus any Medicare premium being withheld; or

4. A copy of the preceding tax year's 1099. The gross monthly benefit for the preceding year can be calculated by dividing the total benefits by 12. The current year's gross monthly benefit can be calculated by adding the current year's COLA adjustment published by Social Security to the gross monthly benefit based on the 1099.

Unemployment Benefits

1. A copy of the latest Department of Labor (DOL) check stub showing the total received, number of weeks, and remaining available balance; or
2. A statement from DOL indicating amount of benefits, date benefits began, and, if applicable, terminated; or,
3. A copy of a DOL claim record that indicates the amount of benefits, length of time, and dates that benefits were received.

Veteran's Administration (VA) Benefits

1. A copy of a recent check, check stub, bank statement, or bank direct-deposit slip indicating the current amount and source; or
2. A dated letter from the VA indicating the current amount of assistance; or
3. A Grantee- or VA-prepared form completed by the VA containing current benefit information; or
4. When documentation is not available in a timely manner, a certification from the client or Grantee intake person that the gross benefit is not subject to change annually is acceptable in addition to one of the above proofs.

Workers Compensation

1. A statement from the employer, insurance company, attorney of record, or union office indicating amount, frequency, and effective dates of payments.

Other Forms of Income

This manual cannot address every type of income households may report. Grantees are advised to apply the aforementioned requirements in a prudent and consistent manner to other forms of income reported by applicant households. Clarification of acceptable documentation of other income may be obtained from the AHFC Program Manager.

No Income

A household unit with no income shall:

1. Have the head of household or the person making the application sign a certification to such, and
2. Submit copies of taxpayers' most recent tax returns or have adult taxpayers sign IRS Form 4506T.

Another method for verifying no income is available for households that live a subsistence lifestyle, A recognized community leader, a current representative of the Village Council, or staff at a local Native Corporation may provide a written statement that corroborates the household unit's lack of income based on the third-party's personal knowledge of the household's income history.

Reporting Changes in Income

Any change in income between the time of application and the scheduled assessment must be reported by a client to the Grantee to ensure that the household unit is still eligible when served.

Income Reverification

If the home is not scheduled for an assessment before 365 days elapse after the date of the most recent proof of income on file, the household unit income must be reverified and documented again. Households that must undergo an income reverification must meet the income guidelines that are current when their income is reverified.

However, eligible households whose homes have been assessed or scheduled for an assessment do not have to undergo an income reverification if their homes will be served and inspected within 18 months of the assessment. The goal is to serve homes as quickly as possible, but logistics (limited freight schedules, back-ordered materials, flooding, etc.) may delay delivery of assistance. The scheduled assessment appointment date must be on file.

Dwelling Unit Documentation

The Grantee and its designees (e.g., contractors) must have written permission from the owner of the dwelling unit to perform work prior to access, occupancy, or use of any real property.

Documentation is required as a part of an application to determine dwelling unit eligibility. An accurate description of the dwelling unit address shall be given. When

possible, this shall include both a legal description and street address, or if there is no street address, a copy of a map indicating the location.

Ownership Verification

Home ownership shall be verified by the Grantee. Documents that may be used for verification include:

- AHFC Weatherization *Application Review* form for a dwelling unit currently owned and/or operated by a Grantee,
- City or Borough tax assessment or bill,
- Recorded Deed or Life Estate,
- Valid Mortgage Agreement,
- Valid Purchase Agreement, or
- Vehicle Title (for mobile home).

If none of the above is available, the following may be suitable on a case-by-case basis:

1. When land ownership rests with a Native village or organization, a signed statement by a principal of the village or organization regarding ownership of the dwelling unit; or
2. An owner provides a sworn statement (affidavit) attesting to ownership, or
3. Other forms of ownership as approved by the AHFC Program Manager.

Note: Option 2 is not intended to allow applicant households to receive Weatherization services without a thorough review of ownership. Applicable examples may involve applicants who live in homes located on land owned by private parties, such as

- a dwelling unit built on the land, out-of-pocket by the applicant household;
- a dwelling unit purchased and relocated to the location by the applicant household, situated in the location and occupied for two heating seasons, and for which proof of ownership has been lost; such as a used ATCO trailer purchased from a logging or construction company, a storage shed that has been converted to a dwelling, older mobile homes, etc.

In such cases, Grantees should be able to request a proof of land ownership and a brief signed statement from the land owner indicating the arrangement between the two parties.

Proof of land ownership is not required for mobile homes on leased property.

Year Built Verification

Where possible, Grantees must verify the year a dwelling was built through local or borough property tax assessment records for real property and/or DMV records for mobile homes. When such third-party resources are not available, it may be possible to obtain verification from local third-parties such as city or tribal offices or local elders who are most familiar with the development of housing stock in the community. A signed statement from the applicant that plausibly details the history of the dwelling and is corroborated by a Grantee's site inspection and data collection may be acceptable.

Grantees are required to comply with lead based paint regulations. Verification of the year built must be in the client file. When the year built is unknown or cannot be verified reliably, Grantees must presume the presence of lead and lead safe work practices must be followed. A lead test may show no presence of lead. Grantees must weigh the costs of LSW practices and lead testing and act in the best interests of the clients, workers, and the program.

Prior Weatherization Verification

Weatherization is intended to be a one-time grant per dwelling unit. Due to changing program guidelines and funding levels since program inception, however, some dwelling units may be eligible to receive Weatherization one more time. However, prior-weatherized dwelling units may be prioritized lower on the wait list than dwelling units that have never been served by Weatherization. This depends on when the dwelling unit was first weatherized by the program.

- Dwelling units weatherized after April 14, 2008, may not receive Weatherization again.
- Dwelling units weatherized during October 1, 1994 to April 14, 2008, are eligible to receive Weatherization once more—with State funds only, but not DOE—but clients in these dwelling units will be ranked lower on the wait list.
- Dwelling units weatherized before October 1, 1994, may receive Weatherization once more without any impact on the priority rank.

Note: *applicants* may receive Weatherization more than once; *dwelling units cannot.*

A. Grantees shall check records of prior-weatherized dwelling units to determine if and when a dwelling unit has been weatherized in the past.

B. Grantees shall note in the client file that a prior-wx review has been performed.

C. When a dwelling unit is verified as served with Weatherization funds after April 14, 2008, the Grantee shall automatically deny the application.

D. When it is unclear whether a dwelling unit is "a prior-wx," the Grantee shall seek additional information to clarify if the dwelling unit on the application matches one on a prior-wx list. If it is still not possible to determine if the dwelling unit is

an ineligible prior-wx, the Grantee may err on the side of the client and wait until the on-site assessment to make the final determination. In this case, the Grantee shall inform the household that its final eligibility determination will be dependent on the Grantee's site inspection findings.

E. If a dwelling unit served after April 14, 2008, is remodeled to create additional dwelling units (e.g., converting a single-family home into a duplex), the new unit is not eligible for Weatherization, unless whole building work was not provided the previous time the property was served.

   This is very rare. One example would be only emergency heating work was provided at the end of a program year when limited funds or logistics prevented improvements to the building envelope, and the new dwelling unit has its own heat source.

F. Grantees shall check all properties for evidence of prior weatherization, including placement of a weatherization decal. Dwelling units that are found to be ineligible due to receiving Weatherization after April 14, 2008, shall be denied Weatherization, regardless of initial approval by eligibility staff.

Prior-Weatherization Lists

Grantees with overlapping service areas shall exchange lists of homes they have served per AHFC's instructions by May 31 of each program year.

- to prevent duplication of funding to any dwelling unit and
- to ensure households are prioritized in a consistent manner by all Grantees serving a community.

Prior weatherization lists shall be provided as Access or Excel files so that Grantees may sort the data. At a minimum, prior-wx lists shall include:

- first and last name of the primary applicant;
- mailing address;
- street address (when available);
- legal description;
- type of dwelling (e.g., single-family, multi-family, mobile home, etc.);
- mobile home serial number (when available);
- Weatherization program year and client number; and
- date weatherization was completed.

As necessary, Grantees may share additional information drawn from client files as necessary to facilitate identifying properties. **Grantees shall treat all client data exchanged as highly confidential at all times.**

AHFC Home Energy Rebate Program (HERP) Verification

State guidelines prohibit expending Weatherization *and* AHFC Home Energy Rebate Program (HERP) funds for improvements on the same dwelling unit.

A Weatherization applicant previously served by either program is not prohibited from applying to Weatherization as long as the applicant's current dwelling unit has not:

- been served by Weatherization after April 14, 2008; **AND**
- had a HERP rebate awarded after May 1, 2008, for improvements made to the dwelling. A HERP rebate only for an As-Is rating awarded after May 1, 2008, does not disqualify a unit from receiving Weatherization.

Weatherization Grantees shall verify whether a HERP rebate of improvement costs has been awarded after May 1, 2008.

A. Upon receipt of a Weatherization application, the Grantee shall review:
   1. an applicant's certification and/or comments on the Weatherization assistance application regarding participation in the AHFC HERP; **AND**
   2. the final HERP award list distributed to Grantees by AHFC on 10/25/2017.

   This initial review for potential duplication of funding shall be done even if the Grantee plans to postpone complete processing of the Weatherization application until the household moves higher up the Weatherization wait list.
B. If the Weatherization application review indicates a HERP rebate was issued for improvements made to the dwelling after May 1, 2008, the Grantee shall deny the Weatherization application.
C. If the Weatherization application review indicates participation in AHFC's HERP but not receipt of a HERP rebate for improvement costs, the Grantee shall not deny the Weatherization application.
D. If information in WX Online or on the HERP list is unclear, the Grantee will contact AHFC staff via email to receive further verification.

Grantees shall note in the client file that a HERP review has been performed.

Rental Dwelling Units

A Rental Dwelling Unit is defined as a home occupied by a household unit that is not the owner of record. This includes, but is not limited to, homes occupied under the following agreements:

- Rent-to-Own,
- Lease-Purchase,

- Life Estate, and
- Verbal.

Authorized Agent

If an agent is to act on behalf of the owner of the property, the agent must show documentation authorizing that person to enter into contractual agreements for an owner. When an existing property management agreement does not exist, the owner may provide a signed and dated statement designating an agent for the purpose of cooperating with the Weatherization Assistance Program.

Landlord-Tenant Agreement

For all rental dwelling units (including Life Estates), a Weatherization *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (LTA) (See Section 2. *Administrative and Eligibility Forms*.) must be completed by the tenant, owner/agent, and Grantee. After all parties sign the LTA, the Grantee shall distribute copies of the LTA to the client and the owner/agent.

Permission to Enter the Premises

Prior to conducting energy-related building inspections and assessments, repairs, and improvements, Grantees shall obtain written permission to enter the premises during application intake. A completed LTA satisfies this requirement. At least 24-hour notice shall be given to each tenant prior to assessing that unit.

For a mobile home situated on land that is not owned by the applicant household, a completed LTA from the landowner is not required.

WX Funding Limitations on Rentals

Grantees are required to solicit an owner contribution for rental dwelling units to be weatherized. All rentals units are subject to the contribution requirements.

For ***all*** rental units, Grantees will determine the amount of materials and labor needed to weatherize the building. Grantees shall solicit a cash or in-kind contribution from the owner/agent. Maximum investment limits (See pp. 1-45 to 1-46.) shall be specified in the LTA and applied equitably to all landlords.

Note: in a row house building where there is a complete separation between units of building thermal barrier, air pressure boundary, and mechanical systems, each unit can be treated as a single family building.

For all units in a rental dwelling of **five or more units**, the dollar amount of materials and labor provided by the Grantee shall not exceed $3,000 per eligible dwelling unit

($5,000 EWX) unless the owner is willing to contribute cash or in-kind services. For any owner contribution, the Grantee will provide up to $3,000 ($5,000 EWX) in materials and labor and then match dollar-for-dollar any owner contribution up to an amount estimated by the Grantee, not to exceed $6,000 ($8,000 EWX) of Weatherization funding per eligible dwelling unit.

For rental buildings of **three or four units**, the dollar amount of materials and labor provided by the Grantee shall not exceed $4,000 ($6,000 EWX) per eligible dwelling unit, unless the owner is willing to contribute cash or in-kind services. For any owner contribution, the Grantee will provide up to $4,000 ($6,000 EWX) in materials and labor, and then match dollar-for-dollar any owner contribution up to an amount estimated by the Grantee, not to exceed $8,000 ($10,000 EWX) of Weatherization funding per eligible dwelling unit.

For a **single-family** rental dwelling unit or a **duplex**, the dollar amount of materials and labor provided by the Grantee shall not exceed $6,000 ($8,000 EWX), unless the owner is willing to contribute cash or in-kind services. For any owner contribution, the Grantee will provide up to $6,000 ($8,000 EWX) in materials and labor, and then match dollar-for-dollar any owner contribution up to an amount estimated by the Grantee, not to exceed $8,000 ($12,000 EWX) of Weatherization funding per eligible dwelling unit.

A written request to modify the investment limit for a rental unit may be submitted to the AHFC Program Manager on a case-by-case basis. The request shall include the rationale for increasing the limit.

In-Kind Contributions or Improvements

In-kind contributions or improvements may be counted in a similar manner as cash contributions. These must be energy conservation or related health-and-safety improvements (e.g., fixing wiring or adding a circuit for a fan but not fixing entry steps) to qualified individual units or to common areas of a qualified building. Only improvements made to the building in the six months immediately prior to the date of application or during Weatherization project activities may be counted as in-kind contributions.

Made Prior to Weatherization Project: The Grantee will determine the *eligibility* of improvements made no more than 6 months prior to the application date and their *value* using actual receipts for materials and labor. Copies of all receipts must be obtained during initial intake and kept in the client file. When receipts are not available, the in-kind contribution will be disallowed.

Made During the Weatherization Project: Grantees may estimate a reasonable market value for the in-kind materials and/or labor and have the owner/agent sign a brief statement for the file, agreeing with the estimated value.

Grantees shall include in-kind contributions or improvements and their associated costs in the Weatherization project work scope.

Improvements made by the owner should be made prior to the start of Weatherization activities whenever possible. If improvements must be made after Weatherization activities, the Grantee will ensure they are completed.

All owner contributions will be returned to the Weatherization Assistance Program and shall not be used for other than legitimate Weatherization activities. Grantees may have the owner make the required contribution directly to a subcontractor or materials supplier, provided the transaction is tracked for reporting purposes.

Note: All materials and improvements must remain with the rental dwelling unit after a tenant leaves.

Waiver of Owner Contribution for Single-Family and Duplex Rental Dwelling Units

At the discretion of the Grantee, the owner contribution for single-family and duplex rental units may be waived by the Grantee.

- This waiver applies only to those individual landlords (not businesses or consortiums) that own four or fewer rental dwelling units, whether single-family or multi-family dwelling units.
    1. An exception would be a Housing Authority that is selling the dwelling unit to the applicant household through a Mutual Help and Occupancy Agreement, and the Title has not been conveyed yet. In this case, if the household qualifies for the program, the dwelling unit may be treated as an owner-occupied home.
    2. Another exception would be when
        - a Housing Authority has allowed a buyer, who has a Mutual Help and Occupancy Agreement, to rent the dwelling unit to a relative (tenant);
        - the tenant's household qualifies for the program; and
        - the dwelling unit otherwise qualifies for a waiver of an owner contribution (per pp. 1-28 to 1-29).
- The LTA and LTA Addendum are required to obtain permission from the owner and compliance with other program obligations, but the contribution may be waived.
- The maximum investment limit applies regardless of a waiver of an owner contribution.
- Justification for waiving an owner contribution must be documented in the client file.

The Grantee may grant a waiver of an owner contribution automatically when one or more of the following applies:

1. A member of the tenant's household is related to the owner and is not charged rent or is charged an amount that is well below market value.

   This guideline applies to "generational" housing; i.e., when ownership of a home is kept within families and the current owner charges minimal ($300 or less per month), if any, rent. In other words, the owner is not treating the home as an investment or income property. If it is not clear that it is the owner's intention to keep occupancy of the home within the family, the Grantee shall deny the waiver or obtain prior approval from the AHFC Program Manager.

   A certification from the owner attesting to the relationship also is required. (This is not necessary for Life Estates, as the recorded document identifies both parties.)

2. A member of the tenant's household is named as the beneficiary in a Life Estate recorded for the property.
3. The owner's household unit income is less than or equal to the income limits for its size published by the U.S. Department of Energy (DOE) that are current as of April 1st of the program year.

   All Grantees shall use the DOE income limits for this purpose.

4. A severe emergency exists (See pg. 1-47.);
5. The household has a lease-purchase or rent-to-own agreement and supporting documentation that meets the guidelines below; or
6. Prior approval is obtained from the AHFC Program Manager for exceptional circumstances.

Note regarding #5 above—In limited cases, a home that is being purchased through a lease-purchase or rent-to-own agreement may be treated as owner-occupied. To qualify for a waiver of an owner contribution, the following conditions must be met:

- The household must have lived in the home at least one year after signing the lease-purchase or rent-to-own agreement;
- The Grantee must be able to verify ownership per the guidelines on pg. 1-22 and verify that the Seller is the current owner (or authorized agent of the owner);
- The lease-purchase or rent-to-own agreement must be signed by the owner/authorized agent (seller) and a member of the client household (buyer);
- The client (buyer) must have met any special conditions stipulated—if there are any—required for conversion from lease/rent to purchase (e.g., completion of a minimum occupancy period, payment of a scheduled balloon payment, etc.).

Overages

If the landlord declines to make a contribution and job costs exceed the estimated amount by less than 50% due to unexpected problems, no owner contribution will be required, though the Grantee may solicit one.

If a project goes over budget by less than 20%, note the overage in the client file. For overages over 20%, a written notification must be sent to the AHFC Program Manager.

Benefits Must Accrue to Tenants

Only eligible Weatherization measures shall be applied to any rental dwelling unit improved by Weatherization. No undue enhancement shall occur to the value of the rental unit as a result of Weatherization work performed. Undue enhancement is defined as any enhancement to a building that increases the value of the property and does not provide energy conservation or health-and-safety benefits to the tenant. If an enhancement to the building can be shown to benefit a tenant, that enhancement shall not be considered undue.

The benefits of Weatherization services must accrue primarily to the tenant and not to the landlord. The Grantee shall document in the client file (or common file for a multi-family building) how Weatherization has benefited the client in a rented dwelling unit, especially where the owner of the building pays the utilities. Some examples of acceptable documentation follow.

- “WX replaced a furnace with a cracked heat exchanger, thus assuring the H/S of the client.”
- “Insulation was added to the attic and crawl of this 4-plex, which reduces overall heat loss and stratification, thus increasing client comfort. Ventilation fans were added to units to control moisture and to improve IAQ. Moisture migration into the attic space was eliminated by air-sealing, preserving critical structural building components, mitigating conditions that could impact H/S such as mold and other environmental toxins, and increasing the durability of housing stock for lower-income households.”
- “By lowering fuel consumption (estimated 21% reduction from AkWarm), rents and tenants’ cost of living will be stabilized for the foreseeable future. Keeping subsidized rents lower increases the affordability of housing for low-income clients and helps them stretch their limited income.”

Exit interviews conducted during final inspections also can assist in determining benefits, as well as collection of the last 12 months of fuel and electricity consumption with a signed release from the accountholder(s) to obtain future records for the purpose of documenting the reduction in consumption.

Conditions for Serving Ineligible Rental Dwelling Units

- **66% Qualification for Whole Building Work:** Sixty-six percent (66%) of units in a multi-family building (50% for duplexes and 4-plexes) must qualify by income to allow work to be done on the whole building as opposed to individual units. (Whole building work includes insulation of the roof or crawl, ventilation, heating work, and other measures that affect the entire insulated structure.)

  The Grantee shall determine which method of delivering Weatherization services to a multi-family building will best achieve the goals of the program. Depending on the configuration of the individual rental units in a multi-family building, performing whole building work may be the best option. In these cases, the Grantee will expend WX funds and report units as completions according to the following guidelines.

- **Vacant Units:** If a unit is vacant, it cannot qualify for funds but improvements can be made to it. If a vacant unit is improved, it must be counted as a completion.

  However, if a vacant unit will be rented to eligible parties in the near future or has a history of such, it may be counted an as eligible unit and receive funds. The owner/agent may provide a signed statement, explaining the history of eligible tenancy and the intention to continue renting the unit to eligible tenants within 180 days, as verification that the unit meets this requirement.

- **Over-Income Units:** If a unit occupied by an over-income household unit, it cannot qualify for funds but improvements can be made to it. If an over-income unit is improved, it must be counted as a completion.

Furthermore, when assisting vacant units, the Grantee must maintain a fair and equitable prioritization of all clients on its wait list (considering application date, demographics, logistics, etc.) Priority clients in eligible housing units should not regularly be wait-listed behind vacant units.

Eighteen-Month Compliance Period

Commencing on the date the LTA is signed and continuing for a period of eighteen months after the work is completed, the owner shall agree not to increase rents on weatherized units, unless those increases are demonstrably related to matters other than Weatherization work performed.

Demonstrably related to matters other than Weatherization work performed is defined as increases in the Fair Market Value of rental units, an increase in property taxes, or increases in utilities paid by the owner, in excess of 25% per year. Any increases should be split equally between all units in the building. The completion date is defined as the date the owner, agent, or tenant certifies completion of the work.

Commencing on the date the LTA is signed and continuing for a period of eighteen months after the work is completed, the owner also shall not terminate or evict any covered tenants or any subsequent tenants, ***provided*** that the tenants comply with all

obligations owed to the owner in accordance with any leases or rental agreements between the owner and tenants.

The LTA applies to present tenants and any subsequent tenants for the eighteen-month period.

In addition to the provisions outlined above, all provisions of the Alaska Uniform Landlord and Tenant Act (AS 34.03.010-380) apply to the owner and tenants who are parties to this agreement.

The LTA shall run with the land and/or weatherized unit in the case of sale or transfer to other owner/agents. Copies of the LTA shall be provided to the owner, to the tenant, and kept in the Grantee's client file.

Definition of Eligible Dwelling Unit

A “dwelling unit" means a house, cabin, a stationary mobile home, an apartment, a group of rooms, or a single room occupied as separate living quarters.

An eligible dwelling unit must:

- be occupied by an income-eligible household unit,
- be the primary residence of that household unit, and
- meet the following definitions and restrictions for a dwelling unit.

In addition, some rental dwelling units may qualify under the Conditions for Serving Ineligible Rental Dwelling Units (pg. 1-31).

Only the portion of a dwelling unit that is occupied by the qualifying household year-round is eligible for Weatherization. An unoccupied portion of a dwelling unit cannot receive Weatherization services.

A unit in a multi-family building occupied by an eligible owner-household is subject to the Maximum Investment Limits for multi-family dwellings (except for condominiums). (See pp. 1-45 to 1-46.) However, an owner contribution is not required.

Substantially Complete

"Substantially Complete" means a dwelling unit has all of the normal integral parts including a foundation, floors, walls, roof, windows, doors, and permanent heating system.

A dwelling or a portion of a dwelling is not considered substantially complete if it is not considered habitable for local climates (e.g., an uninsulated building in Fairbanks).

A household that purchases or moves into a dwelling that does not have a working permanent heating system may be denied assistance, because the dwelling is not substantially complete. The Program is not intended to make homes habitable.

A building that does not meet the above criteria may be considered for Weatherization services when it has served as a primary residence for a household for at least two winters/heating seasons.

Condominiums

Condominiums shall be treated as single-family homes.

Weatherization funds cannot be expended on most common areas/components unless all units in the building qualify. However, attic and crawl space areas that are immediately and directly above/below the qualifying unit may be served.

The Grantee shall obtain written permission from the condo association as necessary to make improvements to the client's unit.

When a unit is occupied by a tenant, the rental dwelling policies on pp. 1-25 to 1-32 apply—except the bulleted items under *Conditions for Serving Ineligible Rental Dwelling Units*. In other words, the unit should be treated as a single-family rental unit.

Contact the AHFC Program Manager for guidance if an entire condo building is occupied by income-eligible households or if some households have applied for Weatherization and others received the AHFC Home Energy Rebate for improvements.

Commercial Use

For state funds only, a dwelling unit also used for commercial purposes that is occupied by an income-eligible household or an apartment building that meets all other eligibility requirements is eligible for Weatherization services using funding for the income-eligible dwelling units:

- for all of the building if 25% or less of the floor space is utilized for commercial purposes (e.g., a self-employed resident's home office, an apartment resident-manager's rental dwelling unit, etc.), or
- for only that portion of the structure occupied as a residence if more than 25% of the floor space is utilized for commercial purposes (e.g., an apartment in a warehouse; the upper half of a split-level that is used as a residence but not the lower level that is used as a hair salon, etc.), or
- for all of the building for small homes that are full-time residences the majority of the time (e.g., a 1,500 sq. ft., single-family home that is used to provide daycare services).

To determine the percentage of commercial use of the home, the Grantee shall review a household's most recent IRS Form 1040 and Schedule C and/or current profit/loss statements to verify how much business use of the home the household claims for tax purposes. This should be consistent with other information gathered during the WX intake process. Households that claim more than 25% use of the home for business purposes to gain advantages on their tax returns cannot claim lesser amounts on their Weatherization applications to qualify for Weatherization services.

When inconsistencies exist, the Grantee may at its discretion require additional verification to determine if the household unit and/or the dwelling unit may receive Weatherization services. The Grantee also may give conditional approval to an otherwise eligible household, advising the household that the final determination of business use of the home will be made during a review of the assessment.

Information gathered during the home assessment must support the amount of residential and business use reported.

State-Licensed Assisted Living Homes (ALHs)

State-licensed Assisted Living Homes (ALHs) may be served with state funds only (not DOE funds). A current list of State-licensed ALHs may be obtained at http://dhss.alaska.gov/dhcs/pages/cl/all/default.aspx.

The amount of funding available to weatherize an ALH is based on the type of structure and the number of income-eligible household units.

1. Owner-Occupied Single-Family ALHs that Meet Program Guidelines
    - Grantees may treat owner-occupied single-family ALHs as regular clients, when the occupants as a group meet program guidelines. The standard average cost per unit for the region applies. The ALH shall be reported as one completed home.
2. Other ALHs, defined as:
    - owner-occupied single-family dwellings whose occupants as a group do not meet program income guidelines
    - Rental single-family dwellings
    - Multi-family dwellings

    A. Household units shall be defined per the guidelines below.
        - Each client-resident—as defined by the State—comprises one household unit.
        - A live-in aide (and the aide's immediate family members) shall be counted as a household unit with $0 income (per Definition of Household Unit on pg. 1-11).

- A resident owner-operator and any immediate family members comprise one household unit. (This household's income shall be calculated even when the owner-operator also acts as a live-in aide.)

B. Each household unit's income shall be calculated per regular program income guidelines.

C. A minimum of 50% of the household units must be income-eligible to qualify the ALH.

D. The following policies also apply to these ALHs.

- Each income-eligible household unit qualifies the dwelling for $2,000 of materials and labor provided by the Grantee, unless the owner is willing to contribute cash or in-kind services. For any owner contribution, the Grantee will provide up to $2,000 in materials and labor, and then match dollar-for-dollar any owner contribution up to an amount estimated by the Weatherization assessor, not to exceed $4,000 of state Weatherization funding per income-eligible household unit.
- For rentals, Grantees also shall apply the Rental Dwelling Units policies (beginning on pg. 1-25). Where a conflict occurs, the ALH guidelines shall be followed.
- A single-family dwelling shall be reported as one completed home.
- A multi-family dwelling that provides complete individual dwelling units to client-residents so that they can live independently (apartment, efficiency, townhouse, 1/2 of a duplex, etc.) shall be reported as the number of homes in the building.
- For a multi-family dwelling that does not provide complete individual dwelling units to client-residents so that they can live independently in the dwelling unit (i.e., they do not have their own bedroom, bathroom, and kitchen/kitchenette), each 800 square feet of actual living space shall be reported as a completed home. A written explanation regarding determination of unit numbers must be in the file.

Grantees are advised to apply the aforementioned requirements in a prudent and consistent manner to Assisted Living Homes. Justification for the amount of state Weatherization funding expended on an ALH must be in the client file.

Shelters

A Grantee may weatherize shelters under the following conditions:

- "Shelter" means 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.

- The benefits of Weatherization must accrue to the tenants not the owner(s). A written explanation regarding how the tenants benefit must be in the file.
- As for any multifamily structure, AHFC guidance governing eligibility and benefits must apply. Because they are not owner-occupied, the multi-family rules for investment limits and owner permission apply.
- For the purpose of determining how many dwelling units exist in a shelter, a Grantee may count each 800 square feet of actual living space as a dwelling unit. A written explanation regarding determination of unit numbers must be in the file.
- The eligibility of individual clients does not need to be determined if there is sufficient evidence that all clients would meet the income eligibility standards all the time. This must be addressed in a letter from the property owner or manager describing the activities of the shelter, the clientele served, and their income levels.
- Justification for emergency (per pg. 1-47) Weatherization services must be in the file.
- Once accepted as a project, the standard assessment process will be applied and those measures that meet the Weatherization program guidelines will be implemented as funds allow. All required diagnostic tests will be applied and target ventilation and air-sealing numbers addressed. Commercial ventilation codes may apply. All general Weatherization rules and regulations apply, including maximum investment limits for rental dwelling units.

State review and approval is not mandatory if all the above requirements are met. All shelters will be inspected by the AHFC Program Manager unless otherwise determined. Costs will be disallowed if terms and conditions are not met.

Ineligible Dwelling Units

Additionally or for clarification, the following dwellings are not eligible for program services. An exception to this ineligibility must be approved in writing by the AHFC Program Manager unless otherwise allowed under Other Allowable Uses of Funds (pp. 1-40 to 1-43).

1. a dwelling designated for acquisition or clearance by a Federal, State, or local program within 12 months from the date Weatherization of the dwelling unit would be scheduled to be completed;
2. a dwelling for which an AHFC Home Energy Rebate Program rebate for improvements made to the home after May 1, 2008—this includes rental dwelling units in duplexes that received the benefits of improvements to common building components;
3. a dwelling in which the household unit is not income eligible;
4. a dwelling leased or maintained by the United States government;

5. a dwelling owned or maintained by the State of Alaska or State-owned corporation, school, or authority;
6. a dwelling reported complete for Weatherization assistance after April 14, 2008;
7. a dwelling that is not occupied at least nine months of the year by the qualifying applicant-household and/or is not occupied by the qualifying household during the heating season (See note following this list.);
8. a dwelling that is not substantially complete (pp. 1-32 to 1-33);
9. a dwelling that is not the primary residence of the applicant;
10. a hotel or motel room;
11. a motorized vehicle;
12. a pleasure or fishing boat;
13. a portion of a dwelling not being lived in or is not substantially complete;
14. a portion of a structure being converted for an apartment or business use;
15. a travel trailer, camper, or other highly mobile dwelling;
16. certain non-conforming dwellings;
17. dwellings actively being marketed for sale or rent, unless the new occupant is also eligible for the program; and
18. an eligible dwelling unit occupied by non-cooperative residents (e.g., cancel more than one appointment, do not provide suitable access to work areas, belligerent or threatening occupants or guests, uncontrolled pets, etc.); denial for non-cooperation must be documented in the client file as well as adequate attempts by the Grantee to inform the client of necessary steps to take and timelines to receive service.

Note regarding #7 above— Weatherization improvements are intended to benefit the qualifying household. The greatest benefits are realized during the heating season. Households that spend winter away from home (“snowbirds”) will consume fuels/electricity elsewhere, which counteracts the intention of Weatherization. Households also should be present throughout the entire Weatherization process to fully comprehend the program and improvements provided.

Extended absences due to family emergencies and/or for medical treatment may be allowed on a case-by-case basis, as may employment that requires regular shifts away from home (e.g., slope workers, prison officers, fishing, etc.) Justification for serving a household that does not comply with Weatherization occupancy guidelines must be in the client file.

Walk-Away Policy

Some situations exist where uncooperative clients, unsafe or unsanitary conditions, or the condition of the structure is such that Weatherization service is not practical. The Grantee may, at its option, refuse service. If this option is exercised, the Grantee will inform the client, in writing, why the service is being refused. If the client rectifies the reason(s) for the refusal, the client may request the application to be reconsidered and the home returned to the waiting list. If the limited amount of money available to serve a home cannot begin to address the great needs of the home, then the Grantee should be able to turn down spending any money on the home. By contrast, if the home is in very good condition, no money should be spent on that home.

The walk-away policy gives Grantees the discretion to not serve homes or to limit service on homes in the following circumstances.

1. If a home is in very good condition, the service provider will:
    a. Provide a check to ensure no unhealthy or unsafe conditions exist,
    b. Check the heating system for proper operation and efficiency,
    c. Justify all energy conservation work (cost-effective measures only), and
    d. Make repairs where needed and justified.
2. If the home is in poor condition, the Grantee may refuse or offer reduced Weatherization services. Grantees may check tax assessment notices and note improvement assessments.
3. If unsafe or unsanitary conditions exist that may be hazardous to a Weatherization worker's health, service may be postponed until the unsafe or unsanitary condition is corrected. Work to correct these conditions may be done as part of the Weatherization process or completed by the owner or other parties.
4. If a client is uncooperative, abusive, or threatening toward Weatherization personnel, the Grantee may choose not to serve that client. If the Grantee chooses not to provide Weatherization services, a letter will be sent to the client outlining the reasons for denial of service. The client may be bumped to the bottom of the waiting list, removed from the list, and invited to re-apply in six months, or asked not to re-apply.
5. If Weatherization services could create potential problems or exacerbate existing problems, Grantees may defer Weatherization services until the problems are resolved.
6. If a client has an abundance of personal belongings that fills the house to the point that work cannot progress, Grantees may follow the guidelines below.
    a. At the assessment, the Grantee shall give the client a written statement or have the client sign an agreement that the household will remove items by a certain date. If Weatherization workers return on that date and the items are still in place, the Grantee may cancel the project at that point or give the

client a written notice that formally defers the project until another date agreed upon by the Grantee and the client.

b. If the client is unable to remove the items, the Grantee may include the cost of crews removing and replacing the items in the project scope. Grantees are not encouraged to expend limited Weatherization resources for this purpose, but there are clients who cannot perform any kind of lifting or have mental health issues that make it difficult to manage their belongings. The Grantee must document the situation in the client file.

c. The Grantee may provide only those measures that are not impacted by the personal possessions (e.g., exterior wall wrap, insulated skirting, etc.). It shall be documented in the client file why the amount of Weatherization measures provided was limited by the Grantee.

Cancelling projects after they are assessed can result in a big loss to a Grantee's production, but this is warranted at times.

Grantee Authority to Implement More Restrictive Policy

Weatherization is meant to be a one-time grant per dwelling so that funding is available to improve as many eligible dwellings as possible. While restrictions exist to avoid duplicating services to homes served by this program or improved with an AHFC Home Energy Rating Rebate, it is possible for a household that has moved to another eligible home to receive weatherization assistance again. In most cases, the household's goals are in line with the program's goals.

However, when information obtained while processing a household indicates a client or landlord is using the program for financial gain, Grantees, in consultation with the AHFC Program Manager, may make and apply a more restrictive policy. Examples of inappropriate financial gain include but are not limited to deliberately using the program to improve a home in order to sell it, deliberately buying a distressed home and applying for a new heating system through the program, landlords moving households to different dwelling units to obtain assistance for unqualified units, etc.

Fraud

Grantees may deny assistance to a household suspected of fraudulently applying or participating in the program. Once fraud is suspected before, during, or after weatherization assistance, the Grantee may deny current and future weatherization assistance to the household—regardless whether the structure would otherwise qualify for improvement. The Grantee shall send a denial letter to the household and notify the AHFC Program Manager.

Other Allowable Uses of Funds

Homes and/or households that do not meet standard eligibility criteria may qualify for assistance in certain circumstances. Grantees will determine who will receive work under the following categories. Written permission from the AHFC Program Manager is not required for these categories. If the situation of a particular client falls outside these designated categories, the Grantee must request permission in writing from the AHFC Program Manager to work on the home.

Fuel Switch

A Grantee may change a dwelling's heating fuel type in certain, limited situations.

- Changing from wood or coal heat to other types of fuel-fired heating systems for medical reasons, such as when the client is elderly or disabled and wood or coal preparation is difficult or impossible. The new fuel type shall not require physical effort to use. If the client is not elderly or disabled, the Grantee may obtain a third-party verification of the need.
- Heat pumps can be installed as a fuel switch option in Southeast and Kodiak, only when the client, due to age or disability, cannot operate a solid fuel system (wood or coal) or health concerns are caused by a fossil fuel system. Documentation must be in the file justifying the installation of a heat pump. All other heat pump installations must be preapproved by the AHFC Program Manager.
- Switching fuels is allowed in cases when it will be possible to save significant energy dollars for a Weatherization client through the course of fuel conversion, keeping in mind the priority of *energy* savings. Two AkWarms must be run for comparison, and an SIR of 1.0 must be met. Both AkWarms must be on file for review by AHFC. **(*The purpose of Weatherization is not to switch fuel types. This approach should be used minimally. If this practice is implemented regularly, the AHFC Program Manager will revisit the allowability of the measure.*)**
- Replacing an electric water heater with a storage tank integrated with a fuel-fired boiler (i.e., indirect sidearm systems).
- Replacing a fuel-fired water heater with an electric water heater for health-and-safety concerns when the unit fails maximum depressurization testing and cannot otherwise be corrected. (***Example:*** *The new system now passes the maximum depressurization test when the previous one failed.)*
- When a client lives in an area of the state that has high electric costs and the client's primary heat is electric, an affordable direct-vent system (e.g., Toyotomi, Monitor, Rinnai, Navian, etc.) can be added to offset some of the electric heating cost.
- Fuel switches shall be funded by state funds only—not DOE.

- Prior written approval from the AHFC Program Manager must be obtained before expending funds on any other type of fuel switch, including renewables.

Non-Conforming Dwelling Units

Grantees may serve certain ineligible dwelling units as non-conforming dwelling units. AHFC has given a blanket approval for weatherizing specific types of non-conforming dwellings.

A travel trailer, houseboat, float home, bunker, basement of an unfinished house, or sod igloo can be considered a non-conforming dwelling unit eligible for Weatherization provided:

- it has served as a permanent, full-time residence for at least two heating seasons in that location with a foundation or mooring or on blocks; and
- is connected to electric, water, and sewer utilities when available nearby; and
- is not motorized for mobility or resting on wheels or axles.

Compliance with these guidelines must be documented in the client file.

Other ineligible dwellings may qualify as non-conforming dwelling units upon approval by the AHFC Program Manager on a case-by-case basis. The Grantee shall include detail on the proposed measures as well as the structure in a letter to AHFC requesting approval for weatherizing a non-conforming dwelling unit. Funds should not be expended on a house boat, float home, or travel trailer that may move in a year. (Boats that are being used as homes, but are in operating condition, such as fishing vessels, are not eligible.)

When an application for a non-conforming dwelling unit is received and determined income-eligible, a Grantee shall assess the non-conforming dwelling in accordance with Section 5. *Building Standards* and the grant requirements. Standard weatherization measures and techniques may not work and alternatives must be justified in the client file.

Secondary Fuel

Adding a supplemental heat source, such as a wood stove, to a dwelling unit may be allowable on a case-by-case basis with prior written approval from the AHFC Program Manager. This guideline pertains to rural areas that are regularly subject to any of the following conditions:

- extreme high cost of the primary fuel used to heat the home;
- fuel distribution to the community may be delayed for a prolonged period due to adverse weather conditions or a lack of community funding to maintain community electricity generation, or

- electrical outages are frequent and/or of a prolonged duration.

When such conditions are present, a supplemental wood stove may enable the household to keep the home heated, which may eliminate the need to vacate and may prevent freeze-up of plumbing systems.

Grantees are reminded that the goal of Weatherization is to reduce overall fuel consumption, not to increase it.

Note: There are dwelling units (WX or EWX) that currently depend on two types of fuel for heating. In such cases, the secondary fuel may be treated as a primary fuel when both fuels are used 50/50 to adequately heat the home.

Warranty Work

- If a home has been weatherized in the previous program year, its final inspection was completed within the last 12 months, and for some reason needs weatherization-related repair or additional work on the Weatherization measures provided, State funds may be expended without prior AHFC approval or reverifying the household's eligibility
- If the final inspection was completed more than one year prior to the warranty request, written approval from the AHFC Program Manager must be obtained prior to expending $5,000 or more. For warranty work under $5,000, justification must be on file. In either case, reverifying the household's eligibility is not required.
- On rare occasion, a client may call to report the prescribed weatherization is underperforming after the warranty period has expired. The Grantee may consider the dwelling for warranty work if it determines that the original Weatherization scope of work did not adequately address the unique needs of the dwelling unit, *and* the client has called back within 24 months after the Weatherization inspection.

  This could happen if conditions during the assessment were not present to alert the assessor to a problem, and the household was not capable of articulating known weatherization issues in the dwelling to the assessor.

  The household does not have to undergo an eligibility re-verification unless the prescribed warranty work is estimated to exceed $10,000.

  The purpose of this guideline is to allow Grantees to maintain the Weatherization program's reputation for quality work and responsiveness to addressing the unique problems of Alaska housing stock. Northern building science is a growing discipline that is continuously researching and refining Weatherization measures.
- Warranty work requests from subsequent homeowners will not be honored without prior approval from the AHFC Program Manager. The intent of the program is to assist the qualifying households who intend to live in the dwellings served by the program.

- Units completed for warranty work may not be counted as completions. (See Section 3, *Revised Projects* for recordkeeping and reporting procedures for warranty expenses.)

Final inspection of all homes must be completed no more than 60 days after Weatherization work is done. When this is not feasible, justification must be documented in the client file. Grantees are advised to inspect homes quickly so that the warranty period may start as close to the date the work was completed as possible. This guideline is intended to help Grantees deny households that would like Weatherization to come back yearly to perform annual home maintenance (readjust doors, recaulk, etc.). Timely inspections also prevent projects from dragging on, which can frustrate clients. Inspectors can address clients' questions or concerns about Weatherization measures before any confusion turns to frustration, which diminishes an otherwise satisfactory experience for the client. For additional guidance on the inspection process, see Inspections on pg. 1-51.

Compliance

Each application would be reviewed by the Grantee to determine that the household and/or the dwelling unit is/are eligible under one of the approved categories. If there is a request outside of these categories or if the Grantee has concerns about whether a home should be served, written permission from the AHFC Program Manager will be required before work can commence. ***If clients chosen for expenditures do not clearly fall within the boundaries of what is described above and if no written permission is obtained from AHFC, any costs expended from Weatherization funding will be disallowed.***

When prior written approval from the AHFC Program Manager is required, requests will be submitted in writing and fully describe the need (e.g., household make-up, severity of conditions, etc.).

Monitoring by AHFC program staff may include the following:

1. Review the overall circumstances requiring the use of State funds.
2. Review of all written documentation on the selection of the client for assistance as well as on the detail of the situation.

All documentation concerning these clients must be written and kept in the client file so that at any time a monitor could determine why the client was selected for State funds.

Maximum Investment Limits for State Funds Only

The Grantee shall manage the budgets for all units weatherized so that the average cost per unit (ACU) of all projects combined—$11,000 for WX and $30,000 for EWX—is not exceeded by the end of the program year.

Maximum investment limits also apply in certain circumstances as outlined on the following WX and EWX tables. (See pp. 1-34 to 1-35, for limits for Assisted Living Homes.)

Note: Single-family dwellings and condominiums occupied by eligible owners are not subject to the maximum investment limits.

WX Maximum Investment Limits for State Funds Only

Dwelling Type	Eligibility Status	No Owner Contribution	With Owner Contribution	With Waiver of Owner Contribution
Single-family*	eligible tenant	6,000	up to 8,000	**
Duplex	eligible owner	6,000		8,000
	ineligible owner	0	0	
	eligible tenant	6,000	up to 8,000	8,000
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	6,000	up to 8,000	
3- to 4-plex	eligible owner	4,000	up to 8,000	
	ineligible owner	0	0	
	eligible tenant	4,000	up to 8,000	
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	4,000	up to 8,000	
5-plex or larger	eligible owner	3,000	up to 6,000	
	ineligible owner	0	0	
	eligible tenant	3,000	up to 6,000	
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	3,000	up to 6,000	

* Single-family = house, cabin, mobile home, and eligible non-conforming dwellings.

** The home shall be treated as an eligible owner-occupied single-family unit subject to the average cost per unit for the region.

EWX Maximum Investment Limits for State Funds Only

Dwelling Type	Eligibility Status	No Owner Contribution	With Owner Contribution	With Waiver of Owner Contribution
Single-family*	eligible tenant	8,000	up to 12,000	**
Duplex	eligible owner	8,000		12,000
	ineligible owner	0	0	
	eligible tenant	8,000	up to 12,000	12,000
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	8,000	up to 12,000	
3- to 4-plex	eligible owner	6,000	up to 10,000	
	ineligible owner	0	0	
	eligible tenant	6,000	up to 10,000	
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	6,000	up to 10,000	
5-plex or larger	eligible owner	5,000	up to 8,000	
	ineligible owner	0	0	
	eligible tenant	5,000	up to 8,000	
	ineligible tenant or vacant	0	0	
	vacant but usually rented to eligible tenants/the owner has committed to rent unit to an eligible tenant	5,000	up to 8,000	

* Single-family = house, cabin, mobile home, and eligible non-conforming dwellings.

** The home shall be treated as an eligible owner-occupied single-family unit subject to the average cost per unit for the region.

Prioritizing Applications

The Grantee shall rank eligible applicants. Priority shall be given to the elderly, persons with disabilities, children under six years old, the lowest income households, and emergencies.

"**Elderly**" is defined as 55 years of age or older. Acceptable verification of age includes:

- a copy of a current state-issued driver's license or ID card,
- a copy of a birth certificate,
- a copy of a senior property tax exemption, or
- an observation of the individual by a Grantee's staff or authorized representative noted in the client file.

Grantees may verify **disabilities** by:

- receiving a copy of a percentage of a disability letter from the Veteran's Administration that indicates at least a 50% disability; or,
- receiving a copy of a Social Security benefit verification (pp. 1-19 to 1-20.) that indicates payments are for a disability (SSDI/SSI); or,
- receiving a copy of a determination from a federal, State or other agency that provides assistance to persons with disabilities; or,
- receiving copies of documentation from a professional third party (professional clinician, care coordinator, case manager, etc.) indicating the nature and extent of the disability; or
- receiving a Grantee-prepared form completed by a professional third party that indicates the nature and extent of the disability; or
- an observation of an obvious visible long-term physical impairment by a Grantee's staff or authorized representative noted in the client file.

Children are defined by AHFC in accordance with the definition used by LIHEAP. For priority purposes, children must be under six years old. An applicant's listing of the child's name and age on the signed application is acceptable verification.

Emergencies are defined as Weatherization-related conditions that are life-threatening to the residents—either no working heat source(s) in winter or CO poisoning in the home. The home should be substantially complete. Copies of a red-tag notice from a utility, heating system repair/replacement estimates, hospital or emergency services reports of CO-poisoning, and/or verification by the Grantee of the severe conditions must be in the client file.

Priority Categories

1. The household includes a resident who is elderly, disabled, or a child under 6 years old, and the total household unit gross income is less than or equal to the income limits published by the U.S. Department of Energy (DOE) that are current as of April 1st of the program year.
2. The household includes a child who is 6-18 years old, and the total household unit gross income is less than or equal to the income limits published by the U.S. Department of Energy (DOE) that are current as of April 1st of the program year.
3. Other households with total household unit income that is less than or equal to the gross income limits published by the U.S. Department of Energy (DOE) that are current as of April 1st of the program year.

Note—for state funds only, the following categories can be qualified using adjusted gross income.

4. The household includes a resident who is elderly, disabled, or a child under 6 years old, and the total household unit income exceeds DOE's income limits but does not exceed AHFC's income limits for state funds that are current as of April 1st of the program year. Priority 4 also includes Priority 1 households in homes weatherized with DOE funds after September 30, 1994.
5. The household includes a child who is 6-18 years old, and the total household unit income exceeds DOE's income limits but does not exceed AHFC's income limits for state funds that are current as of April 1st of the program year. Priority 5 also includes Priority 2 households in homes weatherized with DOE funds after September 30, 1994.
6. Other households with total household unit income that exceeds DOE's income limits but does not exceed AHFC's income limits for state funds that are current as of April 1st of the program year. Priority 6 also includes Priority 3 households in homes weatherized with DOE funds after September 30, 1994.
7. Other households with total household unit income that exceeds DOE's income limits but does not exceed AHFC's income limits for state funds that are current as of April 1st of the program year in homes weatherized with DOE funds after September 30, 1994.

Note: Conditions of a home and/or fuel consumption may justify moving any household up the wait list, particularly emergency circumstances as described on pg. 1-47. Justification must be fully documented in the client file.

Grantees may not be able to serve all clients each year due to wait lists and the logistics of serving each community within their service areas. With prior approval from the AHFC Program Manager, Grantees may add other criteria to further prioritize applicants. Timely application updates are required to verify a household still qualifies for Weatherization assistance, before the household is moved up the wait list due to waiting a year.

Wait List Progression

After a household has been wait-listed 12 months, the Grantee may move the household up one priority level. Thereafter, the Grantee may move the household up one priority level after every additional 12 months on the wait list.

Grantees also may move a household up the wait list when it reports a change that affects its priority. Such changes include:

- the birth of new resident (The client may submit a brief signed statement reporting the change, or a Grantee's intake person or assessor can document the child's name and date of birth in the client file.);
- a resident turns 55 years old (See pg. 1-47 for proof required.);
- a resident has been determined to experience a disability (See pg. 1-47 for proof required.); and
- a change in the condition of the dwelling unit that the Grantee determines to be an emergency in accordance with program guidelines. (See pg. 1-47 for proof required.)

The Grantee shall not lower the priority rank of a household that *has waited at least 12 months* regardless of an application update that indicates a change in household make-up or income level that would warrant a priority level *lower* than its initial priority rank. The priority system is intended to ensure the highest priority households are served before lower-priority households, but it also allows lower-ranked eligible households to receive assistance in a timely manner. Furthermore, a household's priority rank may be moved up more than one priority level in accordance with the priority guidelines above *whenever* the household's higher priority status is verified.

When an application is updated, the household make-up or income most likely will have changed, which may raise a household's priority rank (or lower its rank if it has waited less than a year). Such changes in household make-up and income should be reflected by the priority rank assigned to the household at the time the update is processed. Then, the priority should be moved up one level if the household has waited at least 12 months for assistance.

Note—for state funds only:

- When an application is being routinely updated and a resident that qualified the household for a higher priority rank is reported to have died or to have vacated the residence due to medical reasons, the household's rank on the priority list does not need to be lowered for this reason.
- Similarly, households in which children age out of a higher priority group to a lower one while the household is wait-listed, do not need to be moved to a lower priority rank for this reason.

Eligibility Notification

The Grantee shall notify an applicant in writing of its eligibility determination. An eligible notification shall include the following information:

- The Grantee's contact information;
- Expected schedule for the home work plan and Weatherization work;
- That the work will not proceed without the approval of both the owner (if it is a rental) and the client;
- Particulars necessary regarding purchase and installation of materials; and
- Requirements for final inspection and future monitoring by AHFC and the federal government.

Ineligibility and Appeal Rights

A Grantee shall identify in a letter to an applicant the reason(s) for ineligibility.

If the reason is not for a lack of information, the letter shall identify that an appeal of the decision can be made to the head of the Grantee's Weatherization program.

The appeal process for ineligibility is as follows:

Level 1

1. The applicant must notify the Grantee that an appeal is made and supply any information noted in the ineligibility letter;
2. The Grantee Weatherization head reviews the appeal;
3. The Grantee Weatherization head shall make a decision on the appeal and notify the applicant within 30 days of the appeal request. If the decision is that the applicant is still ineligible, the Grantee shall inform the applicant household that it can request the Grantee to submit a further appeal to AHFC.

Level 2

1. If the applicant has requested the Grantee appeal to AHFC, the Grantee shall submit the applicant file to the AHFC Program Manager;
2. The AHFC Program Manager will review the file and give a copy of the file to the AHFC program coordinator, along with a recommendation;
3. The AHFC program manager will make a final decision on the eligibility status and notify the applicant and the Grantee within 45 days of receipt of the appeal request.

Any further appeals shall follow AHFC regulations for appeals.

Inspections

The Weatherization Assistance Program has a reputation for providing quality work. Inspections are an important part of quality control and program compliance.

- The Grantee shall conduct a final inspection for each dwelling reported complete no more than 60 days after Weatherization work is done. When this is not feasible, justification must be documented in the client file.
- The inspector may be a qualified member of the Grantee's staff. However, the inspector shall not be the crew lead or the supervisor if the supervisor is hands-on for the project. The Grantee also may choose to contract with independent contractors who are qualified to inspect Weatherization work.

  The goal is to have someone other than installers inspect their work. However, there may be times when logistics make this difficult. For smaller Grantees and/or Grantees with large service areas, separation of duties may not always be practicable.
- It is highly recommended that the Grantee conduct in-house reviews of blower door and other diagnostic numbers.
- The Grantee shall conduct file reviews for all required documentation.

  A Grantee that may have difficulty complying with these guidelines shall contact the AHFC Program Manager for guidance to develop a suitable inspection process.

Quality Control

The Grantee will ensure quality control for assessments and implementation of all measures conducted under the Weatherization program.

The Grantee also will ensure that the materials selected are designed for use in an arctic climate and appropriate for the specific application and in compliance with Section 8. *Material Standards*, as applicable. The installation of such materials also must be in such a manner as to ensure longevity of the measure over the projected life of the measure, within reason. (For example, a window should be appropriately chosen for the dwelling, climate and existing conditions, and installed in such a way that it should last for at least fifteen years. Weather stripping, however, may only last one to three seasons.) A minimum one-year warranty will be offered to all weatherization clients by Grantees on any weatherization work performed under this program.

At least one final inspection is required for each dwelling reported complete. (QCI requirements will apply for DOE-funded units.) This inspection will be performed within a timely manner following the completion of work on the dwelling, and will ensure that all materials specified in the client worksheet were installed properly, in a workman-

like manner, and in accordance with manufacturers' recommendations, weatherization program standards, and local building codes where applicable.

Work files must be reviewed for all required documentation. Diagnostic sheets will be reviewed for completeness.

Weatherization Operations Manual

Section 2. Administrative and Eligibility Forms

1. **AHFC Client File Monitoring Form** [This is being provided for informational purposes and is subject to change.]
2. **AHFC Logo**
3. **AHFC WX Admin Monitoring Form** [This is being provided for informational purposes and is subject to change.]
4. **Application Review Form**
5. **Authorization for Release of Information**
6. **Current Alaska Income Guidelines Published by AHFC**
7. **Current DOE Income Guidelines Published by AHFC**
8. **Fuel Release Form**
9. **Landlord Tenant Agreement (LTA)—EWX**
10. **Landlord Tenant Agreement (LTA)—EWX** [for buildings owned or operated by Grantees]
11. **Landlord Tenant Agreement (LTA)—WX**
12. **Landlord Tenant Agreement (LTA)—WX** [for buildings owned or operated by Grantees]
13. **LTA Addendum and Cover Page—EWX**
14. **LTA Addendum and Cover Page—WX**
15. **Memorandum of Agreement** [Sample]
16. **Privacy Act**
17. **Required Admin Client File Documents Checklist**
18. **WX Application, pp. 1 and 2**

Grantees may reformat the appearance of forms provided by AHFC.

Date:________________

Client File Monitoring Form
Agency:

Client Name and/or file Number	Application	Notification Letter	Verify Inc Doc's	Property Owner Verification	Mobile Home SN	L/T Agree	CAZ. TEST COMPLIC ANCE	Blower Door Test	Mat & Labor cost sheet write cost if available	Primary Heating System	WX As-Is & Post AKWARM	Does IOR match the scope of work	Final Inspection qci or 3rd w/signatures	Photos	Lead Base Pre 1978 Year Built Home	Lead documents and certifications	SHPO checklist and compliance	Comments
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Income Verification

Client Name/Wx#	#in Household	Income Limit	Income reported	Income reported by agency	Priority level

Material verifcation

Client #	PO,s Verified	Material from vendor verified


Alaska
Housing
FINANCE CORPORATION

ALASKA HOUSING FINANCE CORPORATION
Research & Rural Development Department

SUBGRANTEE: MONITOR:

DATE:

SECTION I
ADMINISTRATIVE MONITORING

A. AGENCY FILES (Annual)

	YES	NO	N/A
a) Updated Subgrantee Weatherization Operations Manual (WOM)-current version	X		
b) Local operating procedures-agency policy and procedures as it affects the program-in agreement	X		
c) Program correspondence file-approvals and waivers	X		
d) Current grant and amendments	X		
e) Current MOA's for shared service area – signed by both grantees and AHFC	X		

COMMENTS:

B. AGENCY WEATHERIZATION PERSONNEL (SEMI-ANNUAL)

Personnel	YES	NO	N/A
a) Current job descriptions (Wx personnel only)	X		
b) Resumes (management personnel)	X		
c) Personnel policies	X		
d) (Leave, benefits, pay, etc.)	X		
e) Travel Approved outside service area	X		
DOE funding below only (*if applicable)*			
a) All requirements passed through subcontracts			X
b) QCI inspections on all completions			X
c) Use of Field Guide in implementation			X
LIHEAP funding, below only (if applicable)			
a) Funding source noted on client file			X
b) Complies with stated allowable measures			X
c) Expended/reported within period of performance			X

Comments:

C. COMMUNITY FILES AND LOCAL OPERATING PROCEDURES (Annual)

	NUMBER	YES	NO	N/A
1) Outreach Activities-flyers/VHF/community meetings		X		
a) Local activities adequate		X		
b) Mass media activities		X		
c) Is AHFC identified as a funding source		X		
1) Client Waiting Lists		X		
a) Waiting List		X		
b) Denied applications		X		
A) Application Form		X		
a) Required Information		X		
b) Energy Use Requested		X		
c) Fuel release form		X		
B) Process for ensuring eligibility of homes		X		
a) Method of checking for prior weatherization		X		
C) All Client info treated as confidential?		X		
In House Inspection Process		X		
d) Quality Control/ inspection		X		
e) Files reviewed for completeness and accuracy?		X		
f) Diagnostics forms reviewed?		X		
g) Final inspection process		X		
h) Inspection reports?		X		
i) Callback process		X		
j) Number of contractor callbacks		X		
k) Who does inspections				

COMMENTS:

D. WEATHERIZATION POLICIES AND PRACTICES

	YES	NO	N/A
a) Landlord Contributions	X		
b) How much collected (If applicable)	$		
c) Deferral/Walkaway Policy	X		
i) policy in place	X		
ii) How used	X		
iii) How Often	0		
d) Fuel Switch Policy	X		
i) How Many			

ii) Conversions Justified			
h) Client eligibility/ priority procedures	X		
i) Is there a Priority rating checklist	X		
ii) Compliance with WOM in moving up the list	X		
i) Emergency Weatherization justification	X		

SECTION I COMMENTS:

SECTION II
WAP PROPERTY CONTROL

A) GENERAL

	YES	NO	N/A
a) Warehouse/Storage	X		
i) Storage facility	X		
ii) Adequacy of facility for storage purpose	X		
iii) Organization	X		
iv) Adequacy of security	X		
b) Multiple storage locations?			
c) Inventory Control – conducted annual inventory & reported findings to AHFC	X		
d) Overseer:	X		
e) Inventory control systems	X		
i) Account for breakage/shrinkage	X		
ii) Account for common materials	X		
iii) Any major disposal or loss in current year	X		
iv) Any major recent purchases	X		
v) Planned major purchases	X		
f) Have equip over $250 been properly disposed of, i.e. sealed bid, transfer to another grantee, given to AHFC etc, and properly documented	x		

COMMENTS:

B) EQUIPMENT INVENTORY FILES

** = Important questions	YES	NO	N/A
g) Proper Approvals for purchases >/=$5,000.00	X		
h) Master Inventory List **	X		
i) Serial numbers (if applicable) **	X		
j) Initial cost	X		
k) Date of purchase **	X		

l) Serviceability **	X		
m) Maintenance schedules **	X		
n) Warranties	X		
o) Operating manuals	X		
p) Funding source	X		
q) State PM approval (if required)	X		
r) Disposal of non-usable equipment	X		
s) Evidence of filed inventory control			
t) Compare to previous year			
u)	X		

Comments:

C) VEHICLES (Annual)

	YES	NO	N/A
a) Vehicle inventory			
i) Description *(see comments below)*			
ii) Serial number(s			
iii) Purchase date			
iv) Purchase price			
v) Approval to purchase			
vi) Disposition			
b) # Owned			
c) # Leased			
d) Adequacy for job			
e) Condition			
f) Safety equipment			
i) First aid kit, flares, fire extinguishers			
ii) Maintenance schedules			
iii) Mileage logs for privately owned vehicles			

SECTION IV
TRAINING & TECHNICAL ASSISTANCE (T&TA)

	YES	NO	N/A
a) What classes have Wx staff taken?			
i)			
ii)			
iii)			
iv)			
b) What are the Wx staff training needs?			

i)			
ii)			
iii)			

SECTION IV COMMENTS:

SECTION V
LEAD COMPLIANCE

	YES	NO	N/A
a) Is the agency a registered "Certified Renovation" firm w/DOE	X		
b) Is there a "Certified Renovator" person on staff with the agency	X		
c) Is the agency complying with RRP regulations on all pre-1978 homes	X		
d) Is the agency supplying all pre-1978 home clients the brochure "Renovate Right"	X		
e) Are Certified Renovator documents filled out properly for each pre-1978 house	X		
f)	X		

SECTION V COMMENTS:

Alaska Housing Finance Corporation

Weatherization Assistance Program

Application Review

Program Year: _____ **Client #:** _____

Client Name: _____

Street Address: _____

Legal Description: _____

City: _____ **Map on File:** _____

Eligible Dwelling Type:	Yes	No	**Year Built:**		
Owner-Occupied:	Yes	No	**If Rental, Client Given Copy of Signed LTA:**	Yes	n/a
Leased Space:	Yes	No	**If Privately-Owned, Proof of Ownership:**	Yes	n/a

Total Gross Income: $ _____ **Income Verified through:** (mo/yr) _____

Income Eligibility Based on:

APA/IA:	Yes	n/a	Annual Housing Recertification:	Yes	n/a
ATAP/TANF:	Yes	n/a	Tax Return(s) / YTD Income:	Yes	n/a
Food Stamps:	Yes	n/a	SeniorCare:	Yes	n/a
LIHEAP:	Yes	n/a	SSI:	Yes	n/a
			Affordable Housing Subsidy	Yes	n/a
Proof of Age:	Yes	n/a		Yes	No
Proof of Disability:	Yes	n/a	**AHFC Home Energy Rebate::**	Yes	No
Proof of Emergency:	Yes	n/a	**Prior Weatherized:**	Yes	No

Date Approved: _____ **Date Denied:** _____

_____ _____

Signature of Authorized Representative Date

_____ _____

Printed Name Title

AUTHORIZATION
for Release of Information

CONSENT

I authorize and direct any Federal, State, or local agency, organization, business, or individual to release to _____[Subgrantee]_____ any information needed to complete and verify my application for assistance under the Low-Income Weatherization Assistance Program (WAP). I understand and agree that this authorization or the information obtained with its use may be given to and used by the Alaska Housing Finance Corporation (AHFC) in administering and enforcing program rules and policies.

INFORMATION COVERED

I understand that previous and current information regarding me and my family unit may be needed. Verifications and inquiries that may be requested include but are not limited to:

Employment and Income
Public Assistance payments

GROUPS OR INDIVIDUALS THAT MAY BE ASKED

The groups or individuals that may be asked to release the above information include but are not limited to:

Banks and other Financial Institutions
Medical and Child Care Providers
Past and Present Employers
Retirement Systems
Social Security Administration
State Unemployment Agencies
Support and Alimony Providers
Veterans Administration
Welfare Agencies

COMPUTER MATCHING NOTICE AND CONSENT

I understand and agree that AHFC or [Subgrantee]_____ may conduct computer matching programs to verify the information supplied for my application or recertification. If a computer match is done, I understand that I have a right to notification of any adverse information found and a chance to disprove incorrect information. AHFC or the Weatherization agency may in the course of its duties exchange such automated information with other Federal, State, or local agencies, including but not limited to: State Employment Security Agencies, State welfare and food stamp agencies, and the Social Security Administration.

CONDITIONS

I agree that a photocopy of this authorization may be used for the purposes stated above. The original of this authorization is on file with [Subgrantee]_____. I understand I have a right to review my file and correct any information that is incorrect.

SIGNATURES (All adult residents must sign. Please request another copy if necessary.)

X _____
Applicant Signature Date

_____
Applicant Printed Name SSN#

X _____
Adult Household Member Signature Date

_____
Adult Household Member Printed Name SSN#

X _____
Adult Household Member Signature Date

_____
Adult Household Member Printed Name SSN#

X _____
Adult Household Member Signature Date

_____
Adult Household Member Printed Name SSN#

X _____
Adult Household Member Signature Date

_____
Adult Household Member Printed Name SSN#

X _____
Adult Household Member Signature Date

_____
Adult Household Member Printed Name SSN#

Reason(s) for missing signatures:_____

_____

_____

_____

_____

FY 2018 INCOME LIMITS FOR ALASKA

Effective April 1, 2018

Community Name	INCOME LIMIT - 1 PERSON	INCOME LIMIT - 2 PERSONS	INCOME LIMIT - 3 PERSONS	INCOME LIMIT - 4 PERSONS	INCOME LIMIT - 5 PERSONS	INCOME LIMIT - 6 PERSONS	INCOME LIMIT - 7 PERSONS	INCOME LIMIT - 8 PERSONS	EA ADDED FAMILY MEMBER
Anchorage Municipality Low Income Limit	69,650	79,600	89,550	99,500	107,460	115,420	123,380	131,340	7,960
Aleutians East Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Aleutians West Census Low Income Limit	66,010	75,440	84,870	94,300	101,844	109,388	116,932	124,476	7,544
Bethel Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Bristol Bay Borough Low Income Limit	66,430	75,920	85,410	94,900	102,492	110,084	117,676	125,268	7,592
Denali Borough Low Income Limit	72,030	82,320	92,610	102,900	111,132	119,364	127,596	135,828	8,232
Dillingham Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Fairbanks North Star Borough Low Income Limit	65,100	74,400	83,710	93,000	100,440	107,880	115,320	122,760	7,440
Haines Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Hoonah-Angoon Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Juneau Borough Low Income Limit	73,440	83,920	94,410	104,900	113,292	121,684	130,076	138,468	8,392
Kenai Peninsula Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Ketchikan Gateway Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Kodiak Island Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Lake and Peninsula Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Matanuska-Susitna Borough Low Income Limit	64,400	73,600	82,800	92,000	99,360	106,720	114,080	121,440	7,360
Nome Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
North Slope Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Northwest Arctic Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Petersburg Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Prince of Wales-Hyder Census Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Sitka City & Borough Low Income Limit	64,190	73,360	82,530	91,700	99,036	106,372	113,708	121,044	7,336
Skagway Municipality Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Southeast Fairbanks Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Valdez-Cordova Census Low Income Limit	66,500	76,000	85,500	95,000	102,600	110,200	117,800	125,400	7,600
Wade Hampton Census Area Low Income Limit (KUSILVAK)	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Wrangell City and Borough Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Yakutat City & Borough Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
Yukon-Koyukuk Census Area Low Income Limit	63,700	72,800	81,900	91,000	98,280	105,560	112,840	120,120	7,280
2018 DOE Poverty Income Levels-FINAL	30,360	41,160	51,960	62,760	73,560	84,360	94,360	105,960	10,800

2019 POVERTY INCOME GUIDELINES
CONTIGUOUS STATES U.S. GRANTEES
EFFECTIVE January 11, 2019

INCOME LEVELS

Size of Family Unit	Threshold	200%
1	$12,490	$24,980
2	$16,910	$33,820
3	$21,330	$42,660
4	$25,750	$51,500
5	$30,170	$60,340
6	$34,590	$69,180
7	$39,010	$78,020
8	$43,430	$86,860

For families with more than 8 persons, 100% of poverty level increases $4,420 for each additional person. Therefore, for weatherization at 200% of poverty level, add $8,840 for each additional person.

2019 POVERTY GUIDELINES FOR ALASKA

Size of Family Unit	Threshold	200%
1	$15,600	$31,200
2	$21,130	$42,260
3	$26,660	$53,320
4	$32,190	$64,380
5	$37,720	$75,440
6	$43,250	$86,500
7	$48,780	$97,560
8	$54,310	$108,620

For families with more than 8 persons, 100% of poverty level increases $5,530 for each additional person. Therefore, for weatherization at 200% of poverty level, add $11,060 for each additional person.

Weatherization Assistance Program
Fuel Information Form **Client No.**

Type of primary heating system ☐ Oil ☐ Natural Gas ☐ Electric
☐ Wood ☐ Propane ☐ Other _____

Type of domestic water heater ☐ Oil ☐ Natural Gas ☐ Electric
☐ Propane ☐ Other _____

Is there an alternative supplementary heating source? ☐ No ☐ Yes, percent of time used ___%

If yes, state type: _____

Last time heating system serviced: _____ Estimated Annual Fuel Use: _____ gal.

Name and address of servicer: _____ cords

Is this a business? ☐ Yes ☐ No

Release

To: Fuel Supplier	**Mailing Address**	
City	**AK Zip Code**	**Account No.**

To: Fuel Supplier	**Mailing Address**	
City	**AK Zip Code**	**Account No.**

To: Electric Utility	**Mailing Address**	
City	**AK Zip Code**	**Account No.**

I hereby authorize you to release information on my fuel bills, both past and future, to the following agency. I agree that a photocopy of this release may be used for the purpose stated.

I understand that this information will be used only to provide data for the above-named agency, and no information obtained through this release shall be made public in such a manner that the dwelling or occupants can be identified.

Fuel Customer Name	**Street Address/Mailing Address**	
City	**State**	**Zip Code**

Signature **X**_____ Date _____
If possible, attach copies of fuel consumption records (that show quantities used) to this form.

Alaska Enhanced Weatherization Assistance Program

LANDLORD - TENANT AGREEMENT

PERMISSION TO ENTER PREMISES / RENTAL AGREEMENT

- **Landlord, complete** this page and the Landlord Certification on the back. Also, **provide** proof of ownership.
- **Tenant, complete** the Renter Certification on the back.

I, [Print name.] _____, certify that I am the owner/authorized agent, herein referred to as "Owner" for the property located at:

_____

Street Address or Legal Description City State

Number of rental dwelling units in this structure:_____ The property presently is rented to the following:

Primary tenant _____ for $_____ rent per _____ month _____ year.

Type of rental (circle one): month-to-month lease term rent-to-own / lease-purchase other: _____.

Relationship between homeowner(s) and tenant household if any: _____.

Owner/Agent authorizes _____ (the "Weatherization Provider") as provider of Weatherization services to conduct energy related building inspections and assessments, repairs, and improvements. Any materials installed under this agreement shall remain as part of the premises.

The amount of materials and labor provided by the Weatherization Provider may not exceed $8,000 per unit for buildings with one or two units ($6,000 per unit for buildings with three or four units; $5,000 per unit for buildings with five or more units) unless the Owner is willing to contribute.

Owner may be asked to contribute 50% of the cost of Weatherization services above the not-to-exceed limit. The Weatherization Provider may match dollar-for-dollar an Owner contribution up to an amount estimated by the Weatherization Provider, not to exceed $4,000 per unit for buildings with one or two units ($4,000 of Weatherization funds per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units). The cost of building permits shall be borne by the Weatherization Provider.

An addendum defining the scope of work to be accomplished on this building will be attached to this agreement following the Weatherization assessment.

Owner may be asked to contribute toward Weatherization improvements. Please indicate the option you think best suits your circumstances. **[Note: Options "c." and "d." are available only to individual landlords (not businesses or consortiums), who own four or fewer rental units either in single or multi-family structures combined.]**

a. ___ Cash contribution toward Weatherization services. (In addition to the limits in "e." below, Weatherization Provider may match Owner contributions dollar-for-dollar, to an amount to be determined by the Weatherization Provider. At the discretion of the Weatherization Provider, this contribution may be paid directly to a contractor or vendor designated by the Weatherization Provider.)

b. ___ In-kind contribution (to be completed prior to Weatherization improvements wherever possible). Legitimate expenses as determined by the Weatherization Provider may qualify for the match defined in "a." above.

c. ___ Waiver of Owner contribution based on verification by the Weatherization Provider that *the Owner's gross household income* does not exceed the Weatherization income guidelines for landlords (i.e., the actual homeowner(s) not a property manager or authorized representative).

d. ___ Waiver of Owner contribution based on verification by the Weatherization Provider that the Owner is related to a member of the tenant household and charges $0 per month or significantly below market value.

e. ___ No Owner contribution toward Weatherization improvements. Weatherization Provider will provide up to $8,000 per unit for buildings with one or two units ($6,000 per unit for buildings with three or four units; $5,000 per unit for buildings with five or more units).

Only eligible Weatherization measures as defined by the Alaska Weatherization Assistance Program shall be applied to any building, if the funds used to perform those measures are funds provided by Alaska Housing Finance Corporation (AHFC), and/or the U.S. Department of Energy (DOE). No undue enhancement shall occur to the value of the dwelling units as a result of Weatherization work performed. Undue enhancement is defined as any enhancement to a building that increases the value of the property and does not provide energy conservation or health and safety benefits to the tenant.

Commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months, Owner agrees not to increase rents on units weatherized. If a lease in effect expires prior to the end of the eighteen-month period, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen-month period, unless demonstrably related to matters other than Weatherization work. (10CFR 440.22(b)(3)(ii)) Demonstrably related to matters other than Weatherization work performed is defined as an increase in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by Owner. Any increases should be split equally between all units in the building.

Owner also agrees not to terminate or evict any covered tenants or any subsequent tenants, commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months. This provision is in effect provided the tenant complies with all obligations owed to the Owner in accordance with any leases or rental agreements between the Owner and tenants.

This agreement applies to present tenants and any subsequent tenants for the eighteen-month period.

If a tenant believes rents have increased contrary to the provisions of this agreement or has received an eviction notice without cause, the tenant may contact Alaska Legal Services.

This agreement shall run with the land and/or weatherized unit in the case of sale or transfer to other Owner(s)/agents. The Owner is responsible to give official notice of this agreement to any subsequent Owner(s).

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any of the provisions of the agreement related to rental increases, evictions, and terminations of tenancies.

TENANT Certification

I, _____, certify that I am currently renting a dwelling unit located at:
Name (Please print.)

_____
Street Address or Legal Description City State

I have read and understand the terms of this agreement.

_____
Signature Date

LANDLORD (Owner or Authorized Agent) **Certification**

I have read and agree to the terms of this agreement.

_____
Signature of Owner or Authorized Agent * Date

_____
Mailing Address City State Zip

Phone No.: _____ Fax No.: _____ Msg. No: _____

*** AGENT: INCLUDE A COPY OF YOUR AGENT AGREEMENT WITH THE OWNER.**

WEATHERIZATION PROVIDER Certification

I have read and agree to the terms of this agreement.

_____
Signature of Weatherization Provider Authorized Agent Date

[Grantee name]
[Grantee mailing address]
[Grantee phone, fax, email, etc.]

Alaska Enhanced Weatherization Program

LANDLORD - TENANT AGREEMENT

FOR GRANTEE-OWNED AND -OPERATED RENTAL DWELLING UNIT(S)

PERMISSION TO ENTER PREMISES / RENTAL AGREEMENT

The undersigned below certifies that, _____, herein referred to as "Owner" and "Weatherization Provider," currently owns and operates the property located at:

Street Address or Legal Description | City | State

The property is presently rented to the following:

Primary tenant _____ for $_____ rent per ____ month ____ year.

Number of rental dwelling units in this structure: _____.

Weatherization Provider shall conduct energy related building inspections and assessments, repairs, and improvements. Any materials installed under this agreement shall remain as part of the premises.

The amount of materials and labor funded by Weatherization will not exceed $8,000 per unit for buildings with one or two units ($6,000 per unit for buildings with three or four units; $5,000 per unit for buildings with five or more units) unless the Owner is willing to contribute.

Owner will be asked to contribute 50% of the cost of Weatherization services above the not-to-exceed limit. The Weatherization Provider will match dollar-for-dollar an Owner contribution up to an amount estimated by the Weatherization Provider, not to exceed $4,000 per unit for buildings with one or two units ($4,000 of Weatherization funds per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units). The cost of building permits shall be borne by the Weatherization Provider.

An addendum defining the scope of work to be accomplished on this building will be attached to this agreement following the Weatherization assessment, should the Owner choose to participate financially or with in-kind services.

Only eligible Weatherization measures as defined by the Alaska Weatherization Assistance Program shall be applied to any building, if the funds used to perform those measures are funds provided by Alaska Housing Finance Corporation (AHFC), and/or the U.S. Department of Energy (DOE). No undue enhancement shall occur to the value of the dwelling units as a result of Weatherization work performed. Undue enhancement is defined as any enhancement to a building that increases the value of the property and does not provide energy conservation or health and safety benefits to the tenant.

Commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months, Owner agrees not to increase rents on units weatherized. If a lease in effect expires prior to the end of the eighteen-month period, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen-month period, unless demonstrably related to matters other than Weatherization work. (10CFR 440.22(b)(3)(ii)) Demonstrably related to matters other than Weatherization work performed is defined as an increase in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by Owner. Any increases should be split equally between all units in the building.

Owner also agrees not to terminate or evict any covered tenants or any subsequent tenants, commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period

of eighteen (18) months. This provision is in effect provided the tenant complies with all obligations owed to the Owner in accordance with any leases or rental agreements between the Owner and tenants.

This agreement applies to present tenants and any subsequent tenants for the eighteen-month period.

If a tenant believes rents have increased contrary to the provisions of this agreement or has received an eviction notice without cause, the tenant may contact Alaska Legal Services.

This agreement shall run with the land and/or weatherized unit in the case of sale or transfer to other Owner(s)/agents. The Owner is responsible to give official notice of this agreement to any subsequent Owner(s).

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any of the provisions of the agreement related to rental increases, evictions, and terminations of tenancies.

TENANT Certification

I, _____, certify that I am currently renting a dwelling unit
Name (Please print.)

located at:

_____
Street Address or Legal Description City State

I have read and understand the terms of this agreement.

_____
Signature Date

OWNER / WEATHERIZATION PROVIDER Certification

I have read and agree to the terms of this agreement. I further certify that all appropriate staff have reviewed and understand the limitations and obligations contained in this agreement.

_____
Signature of Owner / Weatherization Provider Authorized Agent Date

[Grantee name]
[Grantee mailing address]
[Grantee phone, fax, email, etc.]

Alaska Weatherization Assistance Program

LANDLORD - TENANT AGREEMENT

PERMISSION TO ENTER PREMISES / RENTAL AGREEMENT

- **Landlord, complete** this page and the Landlord Certification on the back. Also, **provide** proof of ownership.
- **Tenant, complete** the Renter Certification on the back.

I, [Print name.] _____, certify that I am the owner/authorized agent, herein referred to as "Owner" for the property located at:

_____

Street Address or Legal Description City State

Number of rental dwelling units in this structure:_____ The property presently is rented to the following:

Primary tenant _____ for $_____ rent per _____ month _____ year.

Type of rental (circle one): month-to-month lease term rent-to-own / lease-purchase other: _____.

Relationship between homeowner(s) and tenant household if any: _____.

Owner/Agent authorizes _____ (the "Weatherization Provider") as provider of Weatherization services to conduct energy related building inspections and assessments, repairs, and improvements. Any materials installed under this agreement shall remain as part of the premises.

The amount of materials and labor provided by the Weatherization Provider may not exceed $6,000 per unit for buildings with one or two units ($4,000 per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units) unless the Owner is willing to contribute.

Owner may be asked to contribute 50% of the cost of Weatherization services above the not-to-exceed limit. The Weatherization Provider may match dollar-for-dollar an Owner contribution up to an amount estimated by the Weatherization Provider, not to exceed $2,000 of Weatherization funds per unit for buildings with one or two units ($4,000 per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units). The cost of building permits shall be borne by the Weatherization Provider.

An addendum defining the scope of work to be accomplished on this building will be attached to this agreement following the Weatherization assessment.

The Owner may be asked to contribute toward Weatherization improvements. Please indicate the option you think best suits your circumstances. **[Note: Options "c." and "d." are available only to individual landlords (not businesses or consortiums), who own four or fewer rental units either in single or multi-family structures combined.]**

a. ___ **Cash contribution** toward Weatherization services. (In addition to the limits in "e." below, Weatherization Provider may match Owner contributions dollar-for-dollar, to an amount to be determined by the Weatherization Provider. At the discretion of the Weatherization Provider, this contribution may be paid directly to a contractor or vendor designated by the Weatherization Provider.)

b. ___ **In-kind contribution** (to be completed prior to Weatherization improvements wherever possible). Legitimate expenses as determined by the Weatherization Provider may qualify for the match defined in "a." above.

c. ___ **Waiver of Owner contribution based on** verification by the Weatherization Provider that ***the Owner's gross household income*** **does not exceed the Weatherization income guidelines for landlords** (i.e., the actual homeowner(s) household's income, not that of a property manager or authorized representative).

d. ___ **Waiver of Owner contribution based** verification by the Weatherization Provider that **the Owner is related to a member of the tenant household and charges $0 per month or significantly below market value**.

e. ___ **No Owner contribution** toward Weatherization improvements. Weatherization Provider will provide up to $6,000 per unit for buildings with one or two units ($4,000 per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units).

Only eligible Weatherization measures as defined by the Alaska Weatherization Assistance Program shall be applied to any building, if the funds used to perform those measures are funds provided by Alaska Housing Finance Corporation (AHFC), and/or the U.S. Department of Energy (DOE). No undue enhancement shall occur to the value of the dwelling units as a result of Weatherization work performed. Undue enhancement is defined as any enhancement to a building that increases the value of the property and does not provide energy conservation or health and safety benefits to the tenant.

Commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months, Owner agrees not to increase rents on units weatherized. If a lease in effect expires prior to the end of the eighteen-month period, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen-month period, unless demonstrably related to matters other than Weatherization work. (10CFR 440.22(b)(3)(ii)) Demonstrably related to matters other than Weatherization work performed is defined as an increase in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by Owner. Any increases should be split equally between all units in the building.

Owner also agrees not to terminate or evict any covered tenants or any subsequent tenants, commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months. This provision is in effect provided the tenant complies with all obligations owed to the Owner in accordance with any leases or rental agreements between the Owner and tenants.

This agreement applies to present tenants and any subsequent tenants for the eighteen-month period.

If a tenant believes rents have increased contrary to the provisions of this agreement or has received an eviction notice without cause, the tenant may contact Alaska Legal Services.

This agreement shall run with the land and/or weatherized unit in the case of sale or transfer to other Owner(s)/agents. The Owner is responsible to give official notice of this agreement to any subsequent Owner(s).

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any of the provisions of the agreement related to rental increases, evictions, and terminations of tenancies.

TENANT Certification

I, _____, certify that I am currently renting a dwelling unit located at:
Name (Please print.)

_____
Street Address or Legal Description City State

I have read and understand the terms of this agreement.

_____
Signature Date

LANDLORD (Owner or Authorized Agent) **Certification**

I have read and agree to the terms of this agreement.

_____
Signature of Owner or Authorized Agent * Date

_____
Mailing Address City State Zip

Phone No.: _____ Fax No.: _____ Msg. No: _____

*** AGENT: INCLUDE A COPY OF YOUR AGENT AGREEMENT WITH THE OWNER.**

WEATHERIZATION PROVIDER Certification

I have read and agree to the terms of this agreement.

_____
Signature of Weatherization Provider Authorized Agent Date

[Grantee name]
[Grantee mailing address]
[Grantee phone, fax, email, etc.]

Alaska Weatherization Assistance Program

LANDLORD - TENANT AGREEMENT

FOR GRANTEE-OWNED AND -OPERATED RENTAL DWELLING UNIT(S)

PERMISSION TO ENTER PREMISES / RENTAL AGREEMENT

The undersigned below certifies that, _____, herein referred to as "Owner" and "Weatherization Provider," currently owns and operates the property located at:

Street Address or Legal Description | City | State

The property is presently rented to the following:

Primary tenant _____ for $_____ rent per ____ month ____ year.

Number of rental dwelling units in this structure: _____.

Weatherization Provider shall conduct energy related building inspections and assessments, repairs, and improvements. Any materials installed under this agreement shall remain as part of the premises.

The amount of materials and labor funded by Weatherization will not exceed $6,000 per unit for buildings with one or two units ($4,000 per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units) unless the Owner is willing to contribute.

Owner will be asked to contribute 50% of the cost of Weatherization services above the not-to-exceed limit. The Weatherization Provider will match dollar-for-dollar an Owner contribution up to an amount estimated by the Weatherization Provider, not to exceed $2,000 of Weatherization funds per unit for buildings with one or two units ($4,000 per unit for buildings with three or four units; $3,000 per unit for buildings with five or more units). The cost of building permits shall be borne by the Weatherization Provider.

An addendum defining the scope of work to be accomplished on this building will be attached to this agreement following the Weatherization assessment, should the Owner choose to participate financially or with in-kind services.

Only eligible Weatherization measures as defined by the Alaska Weatherization Assistance Program shall be applied to any building, if the funds used to perform those measures are funds provided by Alaska Housing Finance Corporation (AHFC), and/or the U.S. Department of Energy (DOE). No undue enhancement shall occur to the value of the dwelling units as a result of Weatherization work performed. Undue enhancement is defined as any enhancement to a building that increases the value of the property and does not provide energy conservation or health and safety benefits to the tenant.

Commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period of eighteen (18) months, Owner agrees not to increase rents on units weatherized. If a lease in effect expires prior to the end of the eighteen-month period, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen-month period, unless demonstrably related to matters other than Weatherization work. (10CFR 440.22(b)(3)(ii)) Demonstrably related to matters other than Weatherization work performed is defined as an increase in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by Owner. Any increases should be split equally between all units in the building.

Owner also agrees not to terminate or evict any covered tenants or any subsequent tenants, commencing on the date the Owner and/or tenant signs that work is complete and continuing for a period

of eighteen (18) months. This provision is in effect provided the tenant complies with all obligations owed to the Owner in accordance with any leases or rental agreements between the Owner and tenants.

This agreement applies to present tenants and any subsequent tenants for the eighteen-month period.

If a tenant believes rents have increased contrary to the provisions of this agreement or has received an eviction notice without cause, the tenant may contact Alaska Legal Services.

This agreement shall run with the land and/or weatherized unit in the case of sale or transfer to other Owner(s)/agents. The Owner is responsible to give official notice of this agreement to any subsequent Owner(s).

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any of the provisions of the agreement related to rental increases, evictions, and terminations of tenancies.

TENANT Certification

I, _____, certify that I am currently renting a dwelling unit
Name (Please print.)

located at:

_____
Street Address or Legal Description City State

I have read and understand the terms of this agreement.

_____
Signature Date

OWNER / WEATHERIZATION PROVIDER Certification

I have read and agree to the terms of this agreement. I further certify that all appropriate staff have reviewed and understand the limitations and obligations contained in this agreement.

_____
Signature of Owner / Weatherization Provider Authorized Agent Date

[Grantee name]
[Grantee mailing address]
[Grantee phone, fax, email, etc.]

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Dear Landlord:

Attached is an Addendum to the *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (LTA) that you signed to allow the Weatherization of your rental unit for the tenant named on that document. The Addendum must be signed and returned to our office before we can proceed with the Weatherization of the dwelling.

Landlords are required to contribute one half of the cost of Weatherization materials and labor in excess of $8,000 per dwelling unit for buildings with one or two units (in excess of $6,000 per dwelling unit for buildings with three or four units; in excess of $5,000 per dwelling unit or buildings with five or more units). The dollar-for-dollar match may not exceed $4,000 for buildings with one or two units ($4,000 for buildings with three or four units; $3,000 for buildings with five or more units). In other words, the maximum amount of Weatherization funds allowed per eligible dwelling unit in a building with one or two units is $12,000 ($10,000 per eligible dwelling unit in a building with three or four units; $8,000 per eligible dwelling unit in a building with five or more units).

Attached you will find a description of proposed Weatherization improvements.

If you cannot make the required payment, the job may still proceed without all of the items being completed. If you choose to contribute, please make your check or money order payable to **_____.** If a contribution is required, it must be received by _____ *before* we will order materials and/or proceed with the work.

In order to complete our work in a timely manner, **please respond to this request within fifteen days of the mailing date.** Failure to respond within the allotted time frame may result in the cancellation of the project.

Thank you for your interest in this program. If you have any questions about this matter, please feel free to contact me at _____.

Sincerely,

Name
Title

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Alaska Weatherization Assistance Program

Landlord-Tenant Agreement
Permission to Enter Premises/Rental Agreement
Addendum

Client #_____

Date:	_____	Contractor:	_____ name/telephone
Landlord:	_____	Tenant:	_____
Mailing Address:	_____	Residence Location:	_____
Telephone:	_____	Telephone:	_____

Total Project Cost: $ _____ **Total Landlord Contribution: $ _____**

This is an Addendum to the *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (LTA) signed by the above-named Landlord and Tenant, and the Weatherization service provider known as [Grantee]**.** It becomes effective when the Weatherization service provider receives this Addendum, signed by the Landlord; any applicable Landlord contribution; and any other documentation required as specified in this Addendum or the scope of work.

Attached is a scope of work, which describes the Weatherization measures and materials proposed for the dwelling unit. The cost of any building permits shall be borne by the Owner of the building.

In addition to the provisions of the LTA, the following provisions shall apply:

- The Landlord may elect to pay the additional cost of the proposed Weatherization measures or may elect to have the job reduced to those measures that total less than the allowed limit.

- All materials installed in the dwelling shall become the property of the Landlord upon installation and remain with the building.

- The Landlord agrees not to increase rents commencing on the date the Landlord signs this Addendum and continuing eighteen (18) months after the date the Landlord and/or the Tenant sign(s) that the work is complete. If a lease in effect expires prior to eighteen (18) months after the date the work is completed, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen month period, unless demonstrably related to matters other than Weatherization work.

  "Demonstrably related to matters other than Weatherization work" is defined as increases in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by the owner. Any increases should be split equally between all units in the building.

- The Landlord also agrees not to terminate or evict any covered tenants or subsequent tenants, commencing on the date of signing this agreement, and continuing for a period of eighteen months after the Landlord and/or the Tenant sign(s) that the work is complete. This provision is in effect provided that the Tenant complies with all obligations owed to the Landlord in accordance with any leases or rental agreements between the Landlord and the Tenant.

- This agreement applies to present tenants and any subsequent tenants for the eighteen-month period, and the Owner agrees to provide subsequent tenants with a copy of this agreement.

In addition to the provisions outlined above, all provisions of the Alaska Uniform Landlord and Tenant Act (AS 34. 03.010-380) apply to the Landlord and Tenant(s) who are parties to this agreement.

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any provisions of the agreement related to rental increases, evictions, and termination of tenancies.

Landlord

I have read and agree to the terms of this Addendum and do hereby authorize the Weatherization service provider to proceed with the proposed improvements. I elect to make

( ) a cash contribution toward improvements in the amount noted above.

( ) an in-kind contribution toward improvements in the amount noted above. [Note: Prior approval must be given for all in-kind contributions. Call this office *before* completing this Addendum to verify that your in-kind contribution qualifies. Once it has been approved, sign and date this Addendum and return it to this office *with copies of the invoices for your purchases if you have not already provided them.*]

( ) no cash contribution toward improvements because the costs do not exceed the per unit limit, or I wish to keep the cost of improvements to less than the per unit limit.

If you do not elect to contribute the total owner contribution, please contact _____ at _____.

_____ _____
Signature of Landlord Date

$_____ _____ _____
Amount of Check Bank Name on Check or Money Order Check Number

---

Weatherization Service Provider

I have read and agree to the terms of this agreement.

_____ _____
Signature of Authorized Agent for Weatherization Service Provider Date

---

Please respond to this request within 15 days of the date of this Addendum.

In order to complete our work in a timely manner, this request requires your prompt attention. Failure to respond within the allotted time frame will result in the cancellation of the project.

For Office Use Only:

Signed, completed copy sent to landlord and tenant:

_____/_____/_____

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Dear Landlord:

Attached is an Addendum to the *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (LTA) that you signed to allow the Weatherization of your rental unit for the tenant named on that document. The Addendum must be signed and returned to our office before we can proceed with the Weatherization of the dwelling.

Landlords are required to contribute one half of the cost of Weatherization materials and labor in excess of $6,000 per dwelling unit for buildings with one or two units (in excess of $4,000 per dwelling unit for buildings with three or four units; in excess of $3,000 per dwelling unit or buildings with five or more units). The dollar-for-dollar match may not exceed $2,000 for buildings with one or two units ($4,000 for buildings with three or four units; $3,000 for buildings with five or more units). In other words, the maximum amount of Weatherization funds allowed per eligible dwelling unit in a building with one to two units is $8,000 ($8,000 per eligible dwelling unit in a building with three or four units; $6,000 per eligible dwelling unit in a building with five or more units).

Attached you will find a description of proposed Weatherization improvements.

If you cannot make the required payment, the job may still proceed without all of the items being completed. If you choose to contribute, please make your check or money order payable to **_____.** If a contribution is required, it must be received by _____ *before* we will order materials and/or proceed with the work.

In order to complete our work in a timely manner, **please respond to this request within fifteen days of the mailing date.** Failure to respond within the allotted time frame may result in the cancellation of the project.

Thank you for your interest in this program. If you have any questions about this matter, please feel free to contact me at _____.

Sincerely,

Name
Title

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Alaska Weatherization Assistance Program

Landlord-Tenant Agreement
Permission to Enter Premises/Rental Agreement
Addendum

Client #_____

Date:	_____	Contractor:	_____ name/telephone
Landlord:	_____	Tenant:	_____
Mailing Address:	_____	Residence Location:	_____
Telephone:	_____	Telephone:	_____

Total Project Cost: $ _____ **Total Landlord Contribution: $ _____**

This is an Addendum to the *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (LTA) signed by the above-named Landlord and Tenant, and the Weatherization service provider known as [Grantee]**.** It becomes effective when the Weatherization service provider receives this Addendum, signed by the Landlord; any applicable Landlord contribution; and any other documentation required as specified in this Addendum or the scope of work.

Attached is a scope of work, which describes the Weatherization measures and materials proposed for the dwelling unit. The cost of any building permits shall be borne by the Owner of the building.

In addition to the provisions of the LTA, the following provisions shall apply:

- The Landlord may elect to pay the additional cost of the proposed Weatherization measures or may elect to have the job reduced to those measures that total less than the allowed limit.

- All materials installed in the dwelling shall become the property of the Landlord upon installation and remain with the building.

- The Landlord agrees not to increase rents commencing on the date the Landlord signs this Addendum and continuing eighteen (18) months after the date the Landlord and/or the Tenant sign(s) that the work is complete. If a lease in effect expires prior to eighteen (18) months after the date the work is completed, a new lease may be signed, but rents will remain at the previous level until the expiration of the eighteen month period, unless demonstrably related to matters other than Weatherization work.

  "Demonstrably related to matters other than Weatherization work" is defined as increases in excess of 25% per year in (1) Fair Market Value of rental units, (2) an increase in property taxes, or (3) an increase in the rate of utilities paid by the owner. Any increases should be split equally between all units in the building.

- The Landlord also agrees not to terminate or evict any covered tenants or subsequent tenants, commencing on the date of signing this agreement, and continuing for a period of eighteen months after the Landlord and/or the Tenant sign(s) that the work is complete. This provision is in effect provided that the Tenant complies with all obligations owed to the Landlord in accordance with any leases or rental agreements between the Landlord and the Tenant.

- This agreement applies to present tenants and any subsequent tenants for the eighteen-month period, and the Owner agrees to provide subsequent tenants with a copy of this agreement.

In addition to the provisions outlined above, all provisions of the Alaska Uniform Landlord and Tenant Act (AS 34. 03.010-380) apply to the Landlord and Tenant(s) who are parties to this agreement.

Either party to this agreement may bring an action for specific performance of its terms. Tenants residing in dwelling units covered by this agreement are intended third-party beneficiaries of any provisions of the agreement related to rental increases, evictions, and termination of tenancies.

Landlord

I have read and agree to the terms of this Addendum and do hereby authorize the Weatherization service provider to proceed with the proposed improvements. I elect to make

( ) a cash contribution toward improvements in the amount noted above.

( ) an in-kind contribution toward improvements in the amount noted above. [Note: Prior approval must be given for all in-kind contributions. Call this office *before* completing this Addendum to verify that your in-kind contribution qualifies. Once it has been approved, sign and date this Addendum and return it to this office *with copies of the invoices for your purchases if you have not already provided them.*]

( ) no cash contribution toward improvements because the costs do not exceed the per unit limit, or I wish to keep the cost of improvements to less than the per unit limit.

If you do not elect to contribute the total owner contribution, please contact _____ at _____.

_____ _____
Signature of Landlord Date

$_____ _____ _____
Amount of Check Bank Name on Check or Money Order Check Number

---

Weatherization Service Provider

I have read and agree to the terms of this agreement.

_____ _____
Signature of Authorized Agent for Weatherization Service Provider Date

---

Please respond to this request within 15 days of the date of this Addendum.

In order to complete our work in a timely manner, this request requires your prompt attention. Failure to respond within the allotted time frame will result in the cancellation of the project.

For Office Use Only:

Signed, completed copy sent to landlord and tenant:

_____/_____/_____

Bering Straits Regional Housing Authority

PO Box 995, Nome, Alaska 99762

MEMORANDUM OF AGREEMENT
Between
Rural Alaska Community Action Program, Inc.
And
Bering Straits Regional Housing Authority

This agreement confirms concurrence between Rural Alaska Community Action Program (RurAL CAP), the AHFC Weatherization Contractor of record for the Kawerak Region and Bering Straits Regional Housing Authority (BSRHA) for authority to deliver weatherization services in the following villages for the 2008 and 2009 building seasons (through fall of 2009).

To be served by BSRHA:

Village	2008	2009	Comments
Brevig Mission	20	0	CAS Units Assess 2008 Complete 2009
Golovin	13	0	CAS Units Assess 2008 Complete 2009
Koyuk	10	0	CAS Units Assess 2008 Complete 2009
Shaktoolik	0	10	CAS Units Assess 2008 Complete 2009
St Michael	0	14	CAS Units Assess 2009 Complete 2009
Teller	0	18	CAS Units Assess 2009 Complete 2009
Wales	0	10	CAS Units Assess 2009 Complete 2009
White Mountain	14	0	CAS Units Assess 2008 Complete 2009
Nome Low Rent (Multi-Family)	46	0	CAS Units Assessment 2008 Completion 2008-2009

To be served by RurAL CAP:

Village	2008	2009	Comments
St. Michael	18	25	Non-CAS units
Stebbins		15	Remainder of non-CAS units in 2010
Nome		30	In partnership with Nome Eskimo Community
Unalakleet			In partnership with Tribal Council Housing

Over the next twelve months, BSRHA and RurAL CAP agree to work together to target additional villages for the 2010 -2012 building seasons, and to develop a subsequent Memorandum of Agreement for those years.

Agreed to this, the ____ day of September, 2008.

_____ _____

Darryl Kooley, President/CEO
Bering Straits Regional Housing Authority

David Hardenbergh, Executive Director
Rural Alaska Community Action Program

FEDERAL PRIVACY ACT INFORMATION FOR APPLICANTS
WEATHERIZATION ASSISTANCE PROGRAM
ALASKA HOUSING FINANCE CORPORATION, AFFORDABLE HOUSING AND ENERGY EFFICIENCY DEPARTMENT

Privacy Act Provisions

Under section 3(e)(3) of the Privacy Act 1974, (5 USC 552a(e)(3)), each agency that maintains a system of records shall inform each individual from whom it solicits information of the authority which permits the solicitation of the information; whether disclosure is voluntary; the principal purpose for which the information is intended to be used; the routine uses which may be made of the information; and the consequences, if any, resulting from failure by the individual to provide the requested information. This statement is required by the Privacy Act to be furnished prior to the collection and use of the information requested on the application for weatherization. You may retain this statement for your records.

Program Authority

The specific authority for the maintenance of weatherization client information is sections 416 and 417 of the Energy Conservation and Production Act, Pub. L. 94-385. These sections direct the U.S. Department of Energy (DOE), which is a sponsor of this program, to monitor the effectiveness of this program and to require a weatherization agency implementing this program to keep records for DOE monitoring.

Alaska Housing Finance Corporation is the recipient of weatherization funds from both DOE and the State of Alaska Department of Health and Social Services, and is required by 10 CFR 440 to document the eligibility of every dwelling unit weatherized and to maintain records for program monitoring and evaluation.

Voluntary disclosure

Your responses to the request for information on the Weatherization Assistance Application, Authorization for Release of Information form, and Fuel Information form are entirely voluntary.

Principal purpose of information

The information will be used by the local weatherization agency to implement the weatherization program. It will be used by the DOE and Alaska Housing Finance Corporation to monitor the effectiveness of this program.

Routine uses

The information which you provide may be used in monitoring, evaluating, and planning housing programs. In addition, the information may be used in investigative, enforcement or prosecutorial proceedings. Your application information is kept confidential.

Effects of not providing information

Should you decline to provide the information requested on the Application and forms, your dwelling cannot be considered for weatherization assistance.

Required Admin Client File Documents

<u>This is required as part of the Client file</u>

The Admin Client file and WX Site Client Files are usually two different files. Admin stays in the office as it has confidential personal information. The WX Site Client File is a working file, which MUST be brought to the client home inspections. After the project is closed out the files may be combined, or at minimum, both be accessible for Program Monitoring and Client File Inspection.

☐ **1.** Application:
Application Review completed by the Grantee's intake person;
Verify client's signature is on the following documents:

- *Application*
- *Fuel Information Form*
- Appropriate **Landlord – Tenant Agreement Permission to Enter / Rental Agreement** (if rental).
- *Permission to provide weatherization assistance to the property* ***(required on application <u>or</u> on another form in the WX Site Client File before WX begins)***

☐ **2.** Income qualification

☐ **3.** Ownership verification

☐ **4.** Year home built verification

☐ **5.** Prior WX review

☐ **6.** Prior HERP review

☐ **7.** State SHPO compliance (and DOE if applicable)

☐ **8.** Project costs (materials, labor, freight) [DOE Subgrantees also must include a break-out of DOE funded measures / materials]

Weatherization Assistance Application

Client No.

Applicant Name	Phone Number Home _____ Work/Msg _____
Site Address Street City State Zip	
Mailing Address	
Directions to Home	

Type of Residence ☐ Owner Occupied ☐ Rental Unit ☐ Mobile Home: Serial # _____
(Circle appropriate) ☐ Single Family ☐ Multiple Family (Apartment) ☐ Subsidized Housing

Rental Unit

Complete Landlord-Tenant Agreement

Owner Name _____ Phone _____

Owner Address _____

Heat paid by: ☐ Owner ☐ Tenant

Total Number in Household [ ]

List the names, social security numbers, sex and age for all members of the household. List income received by each member 18 or older who is not a full-time student.

Name and Social Security Number	Sex	Age	Source of Income	Amount of Income	
				Calculations	Annual Total
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
Name	M F				
SSN					
				Total Income	

Office Use Only

Income Guidelines for a Household of _____ Members: $ _____ ☐ Documentation Attached

Categorical Eligibility ☐ SSI Recipient ☐ LIHEAP Recipient

On the basis of the above information, Household ☐ IS ☐ IS NOT Eligible for Assistance

Intake Worker's Signature

Date

Weatherization Assistance Application

Number in household who are: ☐ 55 years of age or older ☐ Native American ☐ Disabled

Applicant Affirmation

I subscribe and affirm, under the penalties of law, that the statements made in this application for weatherization assistance (including statements made in any accompanying papers) have been examined by me and the best of my knowledge and belief are true and correct. Prior to any weatherization work, I agree to notify the agency of any changes in the information in this application. I understand that by signing this application, I consent to any other inquiry to verify or confirm the information I have given.

I certify that no household member has received an AHFC Home Energy Rebate after May 1, 2008 for *improvements made to the home* and that my household is not on the wait list for the rebate.

This assistance has no affect upon my social security, public assistance or any other income I have. The weatherization work done will not obligate me financially and no lien or mortgage will be held on the property, unless false or inaccurate information has been provided to make me eligible for this assistance. I will not be held liable for any injury or damage occurring on my property which is not a result of my negligence or malfeasance. I certify that I have given my to allow work and monitoring of work on the property listed in this application. I understand that it is the dwelling occupant and/or owner's responsibility to discover and correct unsafe or out-of-compliance conditions which exist apart from the weatherization work.

I understand that this application for weatherization assistance does not guarantee that assistance will be granted but will be used in determining eligibility for the program. Whether or not an eligible applicant will provided assistance will depend in part upon the number of applications received, the funds available and the priorities to be met by the program.

I have read and understand the provisions of the Privacy Information Act.

Applicant's Signature X_____ Date _____

Applicant's Representative **X**_____ Date _____

Relationship _____

Homeowner Certification

f applicant is renter, agency must use Permission To Enter Premises form and may require Landlord-Tenant Agreement

I / We, _____, certify that I / we am / are the owner(s) of the property at _____

(print address)

Owner's Signature X_____ Date _____

Office use only

Ownership verified by: ☐ Examination of deed ☐ Tax Assessment ☐ Other:	List income documentation verified:
Agency Signature	Date

Return application to:

Weatherization Operations Manual

Section 3. Information and Resource Management

Introduction

All Grantees shall be aware of and knowledgeable of AHFC grant regulations and applicable State law as these and the grant agreement shall take precedence should any conflict with this Weatherization Operations Manual (WOM) occur. For DOE funding, the State Plan takes precedence.

The grant agreement details funding guidelines, such as the number of homes required, and specifies requirements for the current program year. This section of the WOM provides additional guidance for managing Weatherization funds and records.

Grantees shall adhere to generally accepted accounting principles.

Grantees shall review their internal policies and procedures for compliance with the requirements of the Weatherization Assistance Program.

Program procedures will encourage the most efficient and effective use of Grantee resources. Information management systems and procedures will be standardized by AHFC to the greatest extent practical and beneficial. Computer software (AkWarm and WX Online) provided by AHFC shall be used to the extent of its capabilities for financial accounting and reporting, in addition to forms provided by AHFC.

AHFC may provide forms to Grantees with the grant, in this manual, and as needed throughout the program year. Grantees may customize non-standardized systems and procedures.

A Grantee's information and resource management shall clearly and thoroughly document Weatherization financial, procurement, personnel, asset, client, and other matters. The Grantee shall provide timely information and reports to AHFC and other entities with oversight authority, as well as Grantee personnel, clients, vendors, and contractors.

A Grantee's information management shall provide necessary security to maintain the integrity and confidentiality of the information. The Grantee shall release confidential information only to Weatherization Program personnel of the Grantee, AHFC, and DOE on an as-needed basis.

Financial Management

The Grantee's financial management system must provide for accurate, current, and complete disclosure of the financial results of each dwelling unit served.

The Grantee must account for expenses separately for each funding source specified in the grant agreement(s) executed with the Grantee. Funding sources that require separate tracking include U.S. Department of Energy, LIHEAP, and AHFC General Funds (state funds).

LIHEAP funds granted April 1 must be expended by June 30 of the same calendar year, and a second round of LIHEAP funds must be expended by September 30 of the same calendar year unless these dates are stated otherwise in the grant agreement.

All other funding sources received through the grant agreement(s) must be expended by the Program Year ending March 31.

Financial Reporting

Monthly Reporting

Grantees shall submit the following AHFC forms each month:

- *Monthly Expenditure Report*,
- *Monthly Program Report Check-Off Form,* and
- *Funds Disbursement Request Form*

Grantees that administer state funds only shall submit monthly reports to AHFC by the 30th of each month. Grantees that administer state and DOE/LIHEAP funds shall submit monthly reports to AHFC by the 15th of each month. If a due date falls on a weekend or holiday, the reports are due the next business day.

Monthly expenditure reports shall provide a summary of expenditures by line item using the line items in the grant budget. For each line item, the following amounts shall be provided:

- the grant budget,
- the total of previously reported outlays,
- total outlays this reporting period,
- total outlays to date, and
- the budget balance.

For Grantees requesting advance payments, an estimate of the expenditures for the 60 days following the cutoff date of the report shall be provided according to the major budget categories of:

- administration;
- materials;
- program support;
- other, including health and safety hazards, leveraging activities, liability insurance, financial audits, and
- Training and Technical Assistance (T&TA).

The total amount requested for reimbursement and advance shall be detailed by these same budget categories. This amount is the total of the outlays during the period being reported and the outlays estimated for the next 60 days, less the prior advance.

Third Quarter Certification

Third quarter certification is due by January 30 of every program year from all Grantees, certifying that all minimum required units will be completed by March 31.

Year-End Reporting

At the end of the program year, all Grantees shall submit final expenditure reports to AHFC no later than May 15 (July 31 for LIHEAP). This is required even when a grant is amended, because each program year must be closed. The year-end report must contain all information required in the WOM and the grant agreement, including:

- an explanation/report for any unexpended funds;
- Final *Funds Disbursement Request Form*;
- Final *Monthly Expenditure Report*;
- Final *Monthly Program Report Check-Off Form;*
- Leverage report (Grantees that have no leverage to report, at a minimum, shall submit a report that states, “We have no leverage to report.”);
- Minimum dwelling units served (transmitted via WX Online);
- Training & Technical Assistance Report;
- one success story (per pg. 3-7); and
- WX As-Is and WX Post AkWarm files uploaded in WX Online for all completions.

  Grantees shall submit two AkWarm files per unit served, except for multifamily units for which the WX As-Is and WX Post AkWarm files are for more than one unit.

Grantees that administer LIHEAP WX funds also must provide data to DHSS per DHSS’ direction.

The Grantee may submit its final financial billing in one or two increments, either as

- one final billing submitted by May 15 (July 15 for LIHEAP), or
- an interim March billing submitted by April 30 (April 15 for DOE) and a final billing submitted by May 15.

  A Grantee that chooses not to submit an interim billing should inform AHFC of its decision in writing by the due date for the interim billing. This ensures both parties are aware that the Grantee is not seeking an interim payment.

In addition to the above reporting requirements, the Grantee must provide AHFC with the following information if specifically requested by AHFC:

- any records that pertain to the Weatherization Assistance Program;
- a list of any personal or real property purchased with grant funds;
- all management letters concerning audits, relating to the Weatherization Assistance Program within 60 days of receipt by the Grantee;
- All third-party contracts to be approved by AHFC (15 AAC 154.745); and
- Audit reports as required by standard provisions (15 AAC 154.740).

Success Stories

Grantees are required to submit at least one success story as part of the Year-End Reporting. Grantees are encouraged to submit more than one story per program year.

- Each story shall be about one page and tell the story of how the program improved the home and quality of life for the household and/or how it positively affected the community.
- It shall include a brief description of the pre-WX conditions, the WX measures, and the results/expected outcomes.
- Before and after pictures that illustrate the improvements shall be included.
- Verbal comments from the client/excerpts from a client letter may be included.
- Permission must be obtained when a client's name will be used/when images will identify the client.
- A signed release must be on file before using client or project information for outreach or promotional purposes. (See Section 6. *Promotional Release*)

Accounting Records

Grantee records shall adequately identify the source and application of funds, including information pertaining to grant awards, authorizations, obligations, unobligated balances, assets, outlays, income, and liabilities.

Grantee records must be sufficient to permit the tracing of funds to a level of expenditures adequate to establish that funds have not been used in violation of the restrictions and prohibitions of applicable statutes.

A filing system shall be maintained for source documentation, including but not limited to:

- bank statements,
- canceled checks,
- contracts,

- correspondence
- financial reports,
- grant advances and reimbursements,
- grant agreement and award,
- job cost records,
- payroll records,
- tax reports,
- time cards, and
- vendor invoices.

Internal Control

Grantees shall maintain effective control over and accountability for all funds, property, and other assets. Grantees shall adequately safeguard all such funds, property, and assets and assure that they are used solely for authorized purposes.

Cash receipts shall be deposited by a Grantee in a bank account on a timely basis to minimize the security risk of cash on hand. Cash and check receipts shall be received and logged in by a different person than the person who makes the deposits at the bank.

Budget Control

Grantee financial management systems must provide for comparison of actual expenditures with approved budget amounts for each grant.

The average cost per dwelling unit for program and material costs cannot exceed the limits established by AHFC.

Budget Revisions

Budget revisions or project changes requiring a grant amendment (pg. 3-31) can be requested by a Grantee in a letter to the AHFC Program Manager. A request shall provide adequate documentation and justification to determine whether the change will meet all grant and program regulation requirements, and what effect the budget change will have on program effectiveness. The revised budget shall be formatted the same as in the grant award.

Required Approval for Specific Costs

Prior to the grant award, the Grantee will submit a budget and budget narrative to AHFC. Included in the narrative will be requests and justifications for:

- any purchases for items that are not installed in a dwelling unit in excess of $5,000; and
- cost allocation plans.

Costs that are not approved in the initial budget require prior written approval from AHFC before expenses are incurred by the Grantee.

Required Notifications

Any change to the Grantee's Cost Allocation Plan must be approved by AHFC in writing.

The Grantee must notify AHFC in writing of any significant (exceeding ten percent (10%) of salary base) changes to the Grantee's pay range of management and director positions. This notification must be made by the 30th of the month following the change.

Allowable Costs

AHFC will reimburse a Grantee only for costs allowed under the current grant and this manual. The following subsections further limit allowable costs by budget category.

Administration

Administration covers all costs that are not directly related to the installation of Weatherization measures.

The following are administration costs and cannot be expensed to program costs:

1. accounting;
2. advertising for personnel or program promotion;
3. banking fees;
4. bookkeeping and accounting;
5. consultants,
6. depreciation or use fee for equipment for buildings purchased with non-federal and non-State funds;
7. indirect costs;
8. legal;
9. office space;
10. office supplies;
11. printing;

12. postage;
13. salaries and wages for administrative personnel and Grantee officers, including the following activities:
    a. accounting,
    b. board functions,
    c. budgeting,
    d. grant preparation,
    e. personnel,
    f. preparing non-program reports,
    g. office management,
    h. reviewing agency expenses,
    i. signing checks,
    j. telephone,
14. telephone;
15. travel and training; and
16. utilities.

Prepaid items exceeding $100, such as postage meter funds, should not be expensed until actually used.

Administrative expenses must not exceed fifteen percent (15%) of the total allowable program operations expenditures.

All administration costs shall be expensed to funding sources by the Grantee following grant requirements and guidelines.

Materials

There are two subcategories under materials: material and freight. Material costs are the invoiced amounts for Weatherization materials. Freight is the cost of transporting materials from the source or point of receipt to a storage site or the job site by third-party carriers.

Only materials that have been selected according to the priorities required by this manual are allowable.

A maximum of 3 percent (3%) of the grant's material cost may be expensed from AHFC funds as an allowable cost to adjust the material inventory on the books to an actual inventory count or to add materials to inventory.

Eligible energy conservation materials are detailed in Section 8. *Materials Standards.*

Program Support

Program support costs include the following:

1. The cost of purchase and delivery of Weatherization materials.
2. Labor and benefit costs for Weatherization assessors, workers, project site supervisors, and final quality control inspectors. This may include labor for Weatherization material handling at a storage facility. The percentage of the Grantee's Weatherization program manager's time spent supervising the above functions also may be included in this category.
3. Transportation of personnel, tools, equipment, and materials to and from a work site.
4. Vehicle costs related to actual Weatherization work or movement of Weatherization materials to or from storage. Costs associated with the assessment, vehicle maintenance, operation, and insurance costs shall be prorated between program costs and administration when appropriate.
5. Maintenance of tools and equipment. This does not include office equipment, which is expensed under administration.
6. Purchase, rental, or annual lease of tools, equipment, and vehicles shall be prorated under program costs and administration, as appropriate. Only the portion of anticipated use for actual Weatherization work can be prorated to program costs.
7. Storage of materials, tools, and equipment. This may include a prorated portion of rent and utilities if the storage is combined with a Grantee's office facility.
8. Weatherization sub-contract costs.
9. The cost for time spent preparing and purchasing materials.
10. Client intake and eligibility verification.
11. Transport of materials by a third-party carrier.
12. Immunization of Weatherization workers.
13. Testing Lead Blood Levels every 12-18 months for Weatherization workers that disturb lead-painted surfaces.
14. Liability, pollution occurrence, and worker's compensation insurance for Weatherization projects.
15. Fees for disposal and/or recycling of materials removed from a home. This includes costs to backhaul trash from communities that do not have proper disposal resources. It is the responsibility of the Grantee to ensure that all materials removed from the home are not reused or resold. They must be either disposed of in a landfill or recycled.
16. Permits required before work may proceed on an eligible dwelling and associated inspection fees.

Categorizing Total Project Costs

While energy conservation is the primary focus of the Weatherization program, the health and safety of the occupants and building durability also will be addressed.

When reporting Weatherization jobs as completed, Grantees must report total project costs and break down the total into two categories:

- Conservation
- Health, Safety, and Repair

Total costs will be the sum of these two categories.

Conservation Costs	= (A)	
Health, Safety & Repair	= (B)	
Total Costs	= (C)	(A+B=C)

Health-and-Safety items include, but are not limited to, CO detectors, smoke detectors, ventilation, proper egress, etc.

Repair/Building Durability items include, but are not limited to, roof repair, gutters, and other building envelope components necessary for viability of the structure and protection of the conservation measures and safety of the occupants.

There will be Weatherization measures completed that fall under both categories. In such cases, Grantees shall break down the costs appropriately between the categories.

Training and Technical Assistance (T&TA)

Allowed activities that can be charged to T&TA are listed in the grant agreement. Requests to use T&TA funds for other activities must be detailed in writing and submitted for *prior* approval by the AHFC Program Manager. Additional guidance follows:

1. Labor costs related to client education may be expensed as a program support cost.
2. For DOE-funded jobs only, diagnostic supplies required (e.g., confined space, etc.). Diagnostic and inspection equipment less than $5,000 also are allowed.
3. T&TA funds that are allowable for Grantee personnel also are allowable for subcontractors acting in the same capacity as Grantee personnel.
    a. Travel costs and per diem for attending training. Grantees may reimburse subcontractors in the same manner as staff or pay a stipend not to exceed $150/day.
4. Mileage and/or travel expenses related to assessments or inspections may be charged to T&TA. Wages for quality control and/or third party inspections also may be charged.

T&TA activities must be tracked in a file that can be reviewed during agency monitoring by AHFC. Information should include trip reports, conferences and trainings attended, staff and subcontractors who participated, travel costs and per diem, salaries and/or stipends paid, client education materials costs, descriptions of special projects and related costs, etc.

Unallowable Costs

1. accrued severance pay not historically justifiable;
2. bad debts;
3. contingencies;
4. contributions and donations;
5. entertainment;
6. fines and penalties;
7. food, when in travel status less than 10 hours;
8. fund raising costs;
9. gifts;
10. governor's expenses;
11. Grantee's fees or profit;
12. interest and other financial costs;
13. items/services not installed in a dwelling unit that cost more than $5,000, which are purchased without prior approval from AHFC;
14. legislative expenses;
15. life insurance on employees with the Grantee as the beneficiary;
16. losses that could have been covered by allowable insurance, other than a reasonable deductible;
17. parking and traffic tickets;
18. publication and printing cost incurred without AHFC approval;
19. the difference in cost between first-class air accommodations and less than first-class air accommodations;
20. tips;
21. training and education that is not related to job duties;
22. travel costs for a traveler's convenience when not required for business;
23. unapproved improvements to a home;
24. unapproved travel outside a Grantee's service area;
25. under recovery of costs under grant agreements; and
26. unreasonable compensation.

Cash Advances

AHFC may advance its own funds to Grantees.

Grantee advances are available on a monthly basis. On the *Monthly Expenditure Report*, the Grantee must estimate the cash outlays for the 60 days following the end of the reporting period. This estimate is the maximum that is allowable for an advance.

On each month's *Request for Reimbursement*, the previous month's advance is subtracted from the request and the new advance estimate is added to it. This keeps the outstanding advance amount at no more than the estimate for the 60 days following the end of the reporting period.

AHFC may restrict advances as determined by the grant agreement.

If a Grantee is unable to demonstrate the ability to manage advances properly, AHFC may determine that only reimbursement payments will be made.

Program Income

The Grantee shall maintain records of the source, amount, and disposition of any program income for which it is accountable to AHFC. Program income includes but is not limited to income from:

- fees for services performed, which were funded by the grant;
- the use or rental of real or personal property acquired with grant funds;
- interest earned on grant funds; and
- rebates, credits, discounts, refunds, etc., and interest earned on any of them.

Assets and materials purchased with Weatherization funding may be used for other Grantee services or activities if appropriate rental or other fees are applied to the Weatherization program. However, these other uses shall not detract from the primary Weatherization purpose for which these assets and materials were purchased.

Sale proceeds for Weatherization materials reduce the Grantee's reported material costs and are not considered program income.

Contributions from owners or landlords collected under the terms of the Landlord-Tenant Agreement are not considered program income.

Grantees shall deduct program income not added to Weatherization funds for additional Weatherization work from allowable costs.

Payments

Monthly payment requests shall be submitted to AHFC by the 30th of each month for the prior month (by the 15th of each month for DOE/LIHEAP), accompanied by a *Monthly Expenditure Report*, WX Online data for completed dwelling units if applicable, and all required documentation. Year-End payment requests shall be submitted to AHFC by May 15 (by August 15 for LIHEAP).

Allowable and approved costs will be reimbursed by AHFC within 30 days of receipt of the payment request.

The following types of program income are subtracted from the total outlays to date to determine the amount to be reimbursed:

- audit recoveries;
- contract settlements;
- interest earned;
- net proceeds from the lease or rent equipment or vehicles purchased with Weatherization funds;
- net proceeds from the sale of materials, equipment, or vehicles purchased with Weatherization funds;
- rebates;
- refunds; and
- the amount of payments previously requested and as approved by AHFC.

The Grantee shall enter these amounts on the *Request for Reimbursement*.

The following types of program income shall be returned to AHFC at grant termination if they have not already been recovered through the payment request process:

- advances,
- interest income on advances, and
- program income not used for weatherization costs.

Payment Withholding

AHFC may withhold payment to a Grantee if:

- The Grantee is not in compliance with the terms of the grant and other measures have failed to bring about compliance.
- The Grantee is indebted to the United States, the State of Alaska, or AHFC.

Because AHFC only reimburses for actual outlays, no reimbursements can be made for payments being withheld from contractors by Grantees.

Deposits

Grantees shall deposit advances in interest-bearing accounts and report interest as required under Program Income (pg. 3-14).

Procurement

Procurement Standards and Procedures

Grantees shall have written procurement policies and procedures that conform to all grant requirements.

Grantees shall provide copies of their code or standards of conduct to all employees involved with procurement. These standards shall be available for inspection by AHFC during the monitoring process.

Initial Procurement Decisions

Whenever possible or practical, Grantees are encouraged to join with other Grantees in bulk purchases of materials and equipment.

Surplus Property

Grantees shall inform AHFC and other Grantees of the availability of serviceable excess property in their possession.

Competition

All procurement transactions shall be conducted in a manner that provides full and open competition.

Some practices, which are considered restrictive and shall be avoided, include but are not limited to:

- any arbitrary action by the Grantee during the procurement process,
- non-competitive pricing practices between bidders, and
- placing unreasonable requirements on bidders in order to qualify to conduct business with the Grantee.

Solicitations for proposals shall:

- avoid using brand names to describe the qualitative nature of materials or services (When it is impractical to write an effective description, the Grantee may specify “brand name or equal” and list the specific features of the named brand to be met.);
- clearly and thoroughly describe the requirements for the requested materials and/or services;
- identify all requirements that bidders must fulfill; and
- identify the criteria that will be used to evaluate proposals.

Pre-Qualified Bidders List

Grantees may establish and maintain a list of pre-qualified bidders for materials and/or services. A list must include enough current qualified bidders to ensure open competition. Grantees will not preclude potential bidders from qualifying during the solicitation period.

Priority Businesses

Grantees shall take steps to solicit proposals from local, minority, small, and women’s business enterprises.

Methods of Procurement

The Grantee shall determine which procurement instrument (e.g., fixed-price contract, cost-reimbursable contract, incentive contract, purchase order, etc.) is most appropriate for a solicitation and serves the best interest of the program. The cost-plus-a-percentage-of-cost method of contracting shall not be used.

The use of time-and-material contracts may be used only after a determination that no other type of contract is suitable. A not-to-exceed price must be included in all contracts.

Micro-Purchases

Micro-purchases may be made when annual costs for the goods or services purchased are not anticipated to exceed $3,000 during the program year. Grantees may award micro-purchases ($3,000 or less) without soliciting competitive price quotations if the prices are reasonable and the goods or services do not exceed the needs of the program. Micro-purchases must be distributed equitably among qualified suppliers to the extent practicable.

Note: Grantees shall not construe the provisions under this section as a mandate to avoid competitive procurement practices in general.

Request for Proposals

In addition to the other procurement guidelines in this manual—particularly under Competition on pp. 3-16 to 3-17, Grantees shall adhere to the following guidelines when issuing a *Request for Proposals* (RFP).

- RFPs shall be publicized to solicit responses from an adequate number of qualified bidders.
- Any responses to publicized RFPs shall be honored to the maximum extent practical.
- Grantees shall have established procedures for evaluating responses.
- The award will be made to the bidder whose proposal best serves the program, with price and other factors considered.

Sole Source or Single Bid

Grantees may procure materials and/or services by noncompetitive proposal without prior approval from AHFC when the Grantee's cost estimate does not exceed $5,000.

Upon receipt of the sole bid, the Grantee shall compare it to the initial cost estimate to determine the reasonableness of the proposed price.

When responding to an expensive emergency (e.g., a boiler breakdown in winter) or in unique circumstances, if a Grantee's initial cost estimate exceeds $5,000, written prior approval to solicit a noncompetitive proposal must be obtained from the AHFC Program Manager.

During the current program year, if a single vendor or contractor is anticipated to have—or has had in the prior program year—cumulative contracts totaling more than $50,000, competitive procurement methods shall be used.

Note: Grantees shall not construe the provisions under this section as a mandate to avoid competitive procurement practices in general.

Cost Analysis for All Procurement

Grantees shall perform a cost or price analysis for every procurement action, including contract modifications and change orders.

The analysis shall include an independent cost estimate prior to issuance of a request for proposal(s). Cost estimates may be established on the basis of a catalog, market prices for products and services sold in substantial quantities to the general public, or prices set by law or regulation. For noncompetitive procurement, consideration also will be given to:

- average profit rates in the community in which the work will be performed,

- record of past performance,
- the amount of subcontracting,
- the bidder's investment,
- the complexity of the work to be performed,
- the risk borne by the bidder, and
- other pertinent factors.

Note: An exception is allowed for micro-purchases. However, Grantees are responsible for paying reasonable prices for goods and services that do not exceed the needs of the program. As any other procurement method, micro-purchases may be subject to monitoring by AHFC.

Procurement Awards

Grantees shall make awards only to responsible vendors and contractors, which possess the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration shall be given to such matters as:

- compliance with public policy,
- contractor integrity,
- debarment status,
- financial, technical, and logistical resources, and
- record of past performance.

Procurement Disputes

Grantees shall have written protest procedures to resolve disputes arising from their procurement practices and shall in all instances disclose information regarding the protest to AHFC.

Each Grantee shall be responsible for the settlement of all contractual and administrative issues arising out of procurement, in accordance with good administrative practices and sound business judgment.

Grantees shall honor its responsibilities to all parties with whom they conduct business transactions.

Procurement Administration

The Grantee shall maintain a procurement administration system that ensures that all parties providing materials and services to the program perform in accordance with:

- the terms of contracts and/or purchase orders, and
- the provisions of this manual and current grant conditions throughout the period of performance established by the Grantee for the materials and services rendered.

Procurement Records

Grantees shall maintain files that record the history of procurement in sufficient detail. These records will include but are not limited to the following:

- contractor selection or rejection,
- cost analysis and basis for current price,
- rationale for the method of procurement,
- selection of contract type, and
- solicitations.

Personal Property Management

Inventory

A Grantee shall have an inventory control system to account for materials, tools, and equipment purchased, installed, inventoried, or in use.

An inventory shall be done at least once a year and the results reconciled with the property records. The difference between the actual inventory and the book inventory shall be documented. Inventory records shall be available to AHFC to review during monitoring.

A Grantee shall maintain a current inventory of all tools and equipment with a purchase price exceeding $250. The listing shall provide the following information:

- acquisition date;
- acquisition price;
- condition;
- copy of title or manufacturer's certificate of origin (if applicable);
- description, model number, serial number, or other identification;
- funding source;
- location;
- programs used for; and
- supplier.

Control System and Maintenance

A control system must be developed to ensure safeguards to prevent loss, damage, or theft. Shrinkage/breakage of materials exceeding 3% of total materials costs shall be reported in writing to the AHFC Program Manager at the end of the Program Year.

Maintenance must be scheduled and performed to keep property in good condition.

Equipment and Tools

Tools and equipment costing more than $5,000 individually require prior written approval from the AHFC Program Manager.

Shrinkage/breakage of tools/equipment with a purchase price exceeding $250 must be noted on the Grantee's inventory.

Disposition of Property

For the purposes of disposition, "property" refers to materials, equipment, tools, vehicles, and supplies. AHFC retains ownership rights of all such property that cost and/or had a value of $250 or more at the time of purchase and/or acquisition.

The Grantee may dispose of all materials, equipment, tools, vehicles, and supplies according to the policies below without prior approval from the AHFC Program Manager unless otherwise noted.

1. Upon disposal of a vehicle, Title must be transferred and insurance cancelled as soon as possible.
2. For property that cost/had a value of $1,001 or more at the time of purchase/ acquisition, the Grantee may dispose of it using the options below.

   The following options (a-e) are <u>not</u> listed in any particular order.

   a. The property may be transferred to another Weatherization Grantee.
   b. The property may be used for another income-based program that the Weatherization Grantee administers.
   c. The property may be offered to another state or local government or tribal organization for use that benefits the local community with prior written approval from the AHFC Program Manager.
   d. Contact the AHFC Program Manager in writing to check whether AHFC chooses to exercise its right of first refusal. Upon receipt of <u>prior</u> written approval from the AHFC Program Manager, the property may be sold per the following guidelines:

      - The property may be sold through a competitive sealed bid process. Notice must be advertised in public locations for a minimum of five (5) working days and include the bid deadline and that payment must be in the form of a check or PO money order. (Accepting personal checks from

individuals or cash is not advised.) Longer notice is recommended if the property has a current market value in excess of $5,000. Notice must be posted in a manner to encourage maximum competition; i.e., through local newspapers or other media, Internet sites, local bulletin boards, etc. Award must be based upon the highest sealed bid.

- The property may be sold through public auction.
- If the property is offered for sale through a competitive sealed bid process or auction and there are no takers, contact the AHFC Program Manager. AHFC may request the Grantee to offer the property for sale a second time; AHFC may elect to take title to the property; AHFC may direct the Grantee to take the property to a State surplus site, to a salvage yard, or to a government entity/organization that manages other programs for AHFC; or AHFC will provide the Grantee with written direction.
- Proceeds from the sale of the property must be used to fund eligible grant activities.

e. If the property has outlived its useful life, is broken, or is beyond repair, dispose of the property properly. Grantees are encouraged to recycle where possible. Document the rationale for disposing of the property (and why recycling was not cost-effective, if applicable) and update the inventory record.

A complete record of disposition transactions must be maintained in the Grantee's files and must be available for audit by AHFC. Also, update the inventory record.

3. For property that cost/had a value less than $1,001 at the time of purchase/ acquisition, the Grantee shall dispose of it in a safe and proper manner and update the inventory record.
4. Special handling for computer equipment, printers, PDAs, storage devices, and other equipment with memory capability:
   a. If the equipment is functional and has reasonable useful life, dispose of it per #2 and #3 above (depending upon value) and take steps to ensure that no confidential data will be compromised.
   b. If the equipment has outlived its useful life, is broken, or is beyond repair, remove the hard drive, portable storage devices/disks and destroy in a manner that will ensure no confidential data is compromised. Dispose of the equipment in a safe and proper manner, preferably via a recycling center unless the cost is prohibitive. Document the rationale for disposing of the equipment (and why recycling was not cost-effective if applicable) and update the inventory record.

Note—Prior AHFC approval is required prior to disposing of any property for a grant that will be discontinued or has been discontinued. A Grantee that will cease to administer the program shall submit a written property inventory to the AHFC Program Manager upon request so that a disposition plan can be implemented.

Client Records

The Grantee shall maintain accurate records of all completed dwelling units by client number. The information gathered for the client application and accompanying forms shall be entered into WX Online by the Grantee. Home assessment data shall be entered into AkWarm by the Grantee and/or its designee.

As much as practicable, a client file shall be kept in a centralized location throughout delivery of weatherization services. It is understandable that portions of a file may be in the field at times. Grantees shall make every effort to provide immediate access to documentation to AHFC monitors as necessary. By May 15, after reporting is completed for each program year, all client records must be filed in a centralized location.

Uncompleted Dwellings

The Grantee shall maintain accurate records of all dwelling units that are not completed.

When an application is approved, expenses for the dwelling unit begin to accrue. If any time after this point—but before any material is installed—the project is terminated, the following subsections apply:

- **Applicant Request.** If prior to installation of any material, the client does not allow installation of materials, the project will be terminated and closed-out. The Grantee shall attempt to obtain a signed statement from the client refusing Weatherization services. A later application by the same applicant for the same dwelling unit shall not be approved.
- **Applicant Moves.** When a client moves after application approval but before materials are installed, the project will be terminated and closed-out. A succeeding occupant of the dwelling unit—even a former client—may apply for Weatherization services.

Material or labor expenses incurred shall be charged against the dwelling unit that was not completely weatherized. For the record, the dwelling unit shall not be considered completed unless materials exceeding $50 have been installed in the dwelling unit, in which case the dwelling unit is considered completed.

Client Files

WX Online

Grantees shall use the reporting function in AHFC's WX Online software. During PY19, Grantees shall train staff to implement the project management function in preparation of full implementation of WX Online by the end of the Program Year. WX

Online training will be coordinated with AHFC as necessary. Participation will be required.

Grantees shall use AHFC's WX Online software to assign a client number to each dwelling unit improved with WX funds—whether the unit qualified for WX funding or received whole building work.

Most client records will be in the applicant's name. Exceptions follow:

A. Grantees shall enter "**Vacant**" in the last name field for a vacant dwelling unit that does not qualify for funds but receives whole building performance work. The unit shall count as a completion.

B. Grantees shall enter "**Vacant Q**" in the last name field for a vacant dwelling unit that qualifies for funds (i.e., a unit with a history of occupancy by eligible tenants and/or the landlord has committed to rent the unit to an eligible tenant). The unit shall count as a completion.

C. Grantees shall enter "**Tenant OI**" in the last name field for a dwelling unit that receives whole building performance work, which is occupied by a tenant that does *not* complete an application *because the household most likely is over-income*. The unit shall count as a completion.

   A landlord might decline to provide a tenant's name when the building already qualifies for whole building performance work based on the eligibility of other tenants. The landlord's intent is to protect privacy of the tenant. In such cases, "Tenant OI" is allowed.

D. Grantees shall enter "**Tenant NE**" in the last name field for a dwelling unit that receives whole building performance work, which is occupied by a tenant that is *not eligible due to failing to complete an application*. The unit shall count as a completion.

   This situation might be similar to "C." above, or the tenant is uncooperative. However, the Grantee does not have enough information to assume the household is over-income.

E. Grantees shall enter "**Shelter**" in the last name filed for a unit that receives whole building performance work. The unit shall count as a completion.

F. Grantees may enter further identifying information in the first name field to help distinguish one vacant, non-qualifying, or Shelter unit from another when viewing the client list; e.g., "Vacant, 113D," "Vacant, Mountain View", "Tenant OI, #3", "Tenant NE, Walker 4-plex," "Shelter, Safe Haven," etc.

A hard copy client file shall be maintained that is identified by the client number.

Grantees are not required to enter all Weatherization *applicants* in WX Online. However, Grantees are required to provide wait list statistics to AHFC upon request at any time. Grantees may use the WX Online to track new, ineligible, and/or wait-listed applicants, or they may use other methods.

In WX Online, client records shall be identified by the current program year and funding source(s) (e.g., State, DOE, Owner Contribution, etc.). At any time, AHFC should be able to call and ask the Grantee for a current list of clients and the amounts spent on their homes.

Client files shall be secured to protect the confidentiality of applicant households and the information in the applications. Client files shall be accessible only to authorized program personnel. Information from a client file shall not be released without written authorization from the client.

A client file shall include:

- application;
- *Application Review* completed by the Grantee's intake person;
- client signature on the following
  a. application
  b. *Fuel Information Form*
  c. Permission to provide weatherization assistance to the property

     The Grantee may include this on the application or other form before providing assistance. For rentals, it is included on all versions of the LTA.
  d. Asbestos booklet receipt (DOE-funded projects only)
  e. *Mold Disclaimer*
  f. Radon factsheet receipt (DOE-funded projects only)
  g. *Renovate Right* brochure receipt (for pre-1978 homes)
  h. any other Health-and-Safety or special conditions notices (if applicable)
  i. Home work plan and/or *Description of Work* before work begins (and on change orders and *Additional Work* if applicable)
  j. acceptance of completion of work;
- income qualification;
- appropriate *Landlord-Tenant Agreement Permission to Enter Premises/Rental Agreement* (if rental dwelling unit);
- *Landlord-Tenant Agreement Addendum* (if rental dwelling unit);
- ownership verification;
- year built verification;
- prior WX review;
- HERP review;
- needs assessment;
- *Pollution Source Survey* (DOE-funded projects only; See Section 7, #10);
- pre- and post-WX blower door tests, depending on conditions;

- WX As-Is, IOR and WX Post AkWarm printed reports;
- pressure diagnostic testing results;
- combustion safety testing results;
- *Combustion Safety Testing Report* (DOE-funded projects only);
- home work plan and/or *Description of Work*;
- written justification of accrual of benefits to tenant;
- SHPO compliance for state-funded measures (and for DOE-funded measures, as applicable);
- project costs (materials, labor, freight) [DOE Subgrantees also must include a break-out of DOE/LIHEAP-funded measures/materials.];
- *Economic Analysis of Refrigerator Replacement* (if applicable);
- *Confined Space Evaluation Form*;
- Installer certification of insulation signed by contractor or Grantee (if applicable);
- Lead Based Paint forms (for pre-1978 homes or when the year built is unknown), including lead clearance documentation;
- final inspection (QCI for DOE-funded projects), final inspection punch list (if applicable), and completion of work sign-off by client and Grantee;
- *Maximum Depressurization Data Sheet* (not required for DOE-funded projects; use *Combustion Safety Testing Report instead*);
- heating system inspection;
- ventilation compliance (ASHRAE 62.2 2016 print-out for DOE-funded projects);
- Grantee sign-off of placing decal on electric box;
- *Agency WX Post Measures Checklist* (If DOE-funded, use QCI inspection form instead.);
- photographs; and
- waiver requests and approvals (if applicable).

A client file also may include:

- *Authorization for Release of Information*;
- *Disposal Authorization*;
- documentation supporting priority rank;
- field supervisor change list;
- home identified on location map;
- video – visual and/or infrared; and
- work orders.

For additional client file requirements, see Section 1. *Application Requirements* and applicable forms provided in Sections 2, 4, 6, and 7.

Revised Projects

After a project has been transferred to AHFC, additional work may be required as a result of other allowable uses of funds pre-approved by the AHFC Program Manager (per pg. 1-40), an inspection, monitoring, or a warranty request. When additional work will be provided *after* a client has certified completion of work (whether the job has been transferred or not), the client shall certify that the Grantee has informed the client of the additional work before the additional work is started. The client also shall certify completion of the additional work. The *Additional Work* form in Section 6 shall be used for this purpose. The associated costs must be recorded and, in some cases, reported to AHFC.

- **For a transferred project that incurs additional costs during the same Program Year (PY),** the additional costs shall be recorded in the project record. Additional work typically creates a modest increase to overall project cost.

  When additional costs exceed $1,000, the Grantee shall resubmit the project as a revision to AHFC via WX Online. Revised projects shall not be counted as completions.

- **For a transferred project that incurs additional costs during a subsequent PY,** track all warranty expenses in a hard copy client file called "Warranty [current PY]."

  Each PY, the Grantee shall create a warranty file for additional costs incurred for past PY projects. Each expense shall reference the respective former PY and client number (e.g., 09-1234). Justification for the warranty work for each project shall be kept in the file. Any required client eligibility updates also shall be kept in the warranty file.

  The Grantee shall charge warranty expenses to WX general program costs in accordance with this manual and its AHFC WX grant agreement.

  Note: A separate warranty file for each project is *not* required by AHFC. Grantees are *not* required to create a separate budget item for WX warranty expenses. However, Grantees may develop additional internal procedures to track warranty work and associated expenses.

  At any time, AHFC should be able to ask the Grantee for a current list of warranty clients and the amounts spent on their homes.

Adverse Testing Conditions

Pre- and post-WX blower door tests are required on all homes except when the following conditions are present during the tests:

- extreme low outside temperature,

- high winds,
- lack of electricity, and/or
- wood fire burning in wood stove or fireplace.

Grantees shall keep exceptions to a minimum. The reason(s) why a blower door test was not performed must be documented in the client file.

Other Files

Grantees shall maintain the following files on computer or hard copy, as appropriate, in addition to the client files.

- check register and copies of canceled checks or bank statement of cleared checks,
- copies of all invoices,
- copies of all purchase orders,
- correspondence files for all other grant-related communications,
- current copy of the Weatherization Operations Manual and all revisions,
- equipment inventory listing,
- grant correspondence file of communications with AHFC,
- grant file with the latest grant and amendments,
- insurance policies and billings,
- materials inventory listing,
- payroll records,
- procurement documents for proposals and proposal selection,
- subcontracts and related correspondence and payments,
- trip reports, and
- other documents related to a grant project.

Record Retention

A Grantee shall maintain all Weatherization hard copy and computer files for three calendar years.

Significant Complaints from the Public

A complaint may be received verbally or through written correspondence. If a complaint is received verbally, the Grantee may request that a written detail of the basis for the complaint be provided.

It is most effective to resolve complaints at the closest level to the complainant. Therefore, it is the responsibility of the Grantee to resolve complaints. Complaints shall be resolved verbally with the client when possible. In some cases, a successful resolution can be obtained by simply restating program guidelines and providing additional client education. When a simple verbal resolution is not adequate, the Grantee shall respond in writing.

A file review and on-site inspection may be necessary, as well as new pictures. Coordinating follow-up by Weatherization personnel, inspectors, suppliers, or installers may be required. The Grantee shall keep the client informed of its activities, timelines, and determinations. All activities and client contact shall be documented and dated. It is highly recommended that all parties certify the resolution to close the complaint process.

Furthermore, the Grantee shall notify the AHFC Program Manager of any significant complaints such as:

- eligibility challenges,
- personal use of Grantee equipment or materials outside of the Weatherization program,
- unresolved worker etiquette toward a client,
- unresolved workmanship problems, and
- other concerns that are not of a minor nature.

The Grantee shall provide a written summary of the complaint, a copy of the client's written complaint (if one was submitted), actions taken, pictures, and other pertinent information (estimates, AkWarm reports, etc.) to the AHFC Program Manager. The Grantee shall follow any instructions provided by the AHFC Program Manager regarding the handling of the complaint.

On the rare occasion that AHFC should receive a complaint directly, AHFC shall notify the Grantee to resolve the complaint.

A complaint shall be handled in a confidential manner. The name of a complainant shall remain anonymous to everyone outside of Grantee or AHFC personnel with a need to know. If it is apparent that an investigation of a complaint may reveal the identity of a household in the community, the household shall be so notified. The household can then decide if it wants the investigation to continue or not.

Monitoring

AHFC will perform monitoring of a Grantee's performance and records on a regular basis. The Grantee will facilitate both on-site and agency monitoring processes for AHFC program/grant managers or designees. It is anticipated that AHFC staff or designees will inspect a minimum of ten percent (10%) of the units completed by each Grantee. (QCI requirements will apply for DOE-funded units.) Furthermore, at least

one on-site office/facilities visit will be conducted during the program year. In some cases, a home may be monitored during weatherization work and again upon completion. Most Grantees will be monitored during several visits throughout the year. AHFC reserves the right to monitor as many projects on site as needed to ensure quality control. Monitoring includes:

- client questionnaires,
- correspondence,
- office visits,
- telephone contacts, and
- visits to dwelling units and clients served.

Performance monitoring of measured results from records and diagnostic tools will be done as appropriate, along with technical analysis of the results. After receipt of an AHFC monitoring report, a Grantee shall make all necessary corrections within a reasonable timeframe established by AHFC and provide sufficient notification of compliance to AHFC. The monitoring report and resulting compliance notification will become part of the grant file.

The following will be monitored during an on-site office monitoring:

- **Financial Records**, including general ledger, posting ledger, bank statements, check register, purchase orders, audit reports, and financial statements;
- **Procurement and Inventory System**, including procurement procedures, inventory control, property control, and security for materials and property;
- **Client Files**, for accuracy, completeness, and required forms; and
- **Program Documents and Records**, including program correspondence, current Weatherization Operations Manual, current grant and amendments, program regulations, OMB circulars for Grantee and subcontractors, client priority system, and client waiting list.

Field monitoring will consist of the following:

1. A minimum of 5% of the dwelling units completed in a year for:
   a. appropriateness of materials,
   b. client satisfaction,
   c. priority selection of measures,
   d. quality of work, and
   e. record of materials installed in client files.
2. Units being weatherized for:
   a. care and use of tools and equipment,
   b. care of materials,

c. neatness of the work site and care for the client's property,

d. safety practices,

e. work crew appearance, and

f. worker conduct with the client.

A Grantee's final inspector is responsible for accompanying AHFC on a monitoring visit to dwelling units served. When an on-site visit involves travel to a rural village, the Grantee shall make necessary arrangements in the village for the visit.

Required Approvals from AHFC

Grant Amendment

The following is a list of decisions for which the Grantee must receive an approved grant amendment:

- a major change in region or minimum number of dwelling units to be completed,
- Budget Revisions exceeding ten percent of the grant award as detailed in the grant agreement,
- change in the materials versus program support budget ratio when program support is to be increased,
- increase or decrease in grant funds,
- increase or decrease in grant period of performance, and
- other changes in the scope of the agreement as determined by AHFC.

Required Reporting and Data Transfer

The following require notification or reporting by a Grantee to AHFC:

1. progress reports on a form provided by AHFC by the due date of the next monthly report;
2. dwelling completion data files generated in WX Online;
   a. At the time a WX Online client record is submitted to AHFC,
      - the household demographics reported shall be based on the most recent application review/verification(s) on file; and
      - the *actual* priority rank assigned to the household based on the most recent application review/verification(s) on file shall be reported—not a higher priority rank assigned solely due to the household being wait-listed 12 months or more. [See Section 1, *Wait List Management*.]
3. WX As-Is and WX Post AkWarm computer files for completed dwelling units uploaded in WX Online.

Weatherization Operations Manual

Section 4. Historic Preservation

Attachments:

1. **Programmatic Agreement Among The United States Department of Energy, The Alaska Housing Finance Corporation and The Department of Natural Resources (State Historic Preservation Officer) Regarding EECBG, SEP, and WAP Undertakings**
2. **AHFC-DOE-SHPO Programmatic Agreement Extension**
3. **Memorandum of Understanding Between the Alaska Housing Finance Corporation and the Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation, Office of History and Archaeology Regarding Cultural Resource Reviews of State Funded Construction Projects**
4. **SHPO Compliance Checklist**
5. **SHPO's *Alaska State Historic Preservation Office Request for Section 106 Review for HUD and DOE/AHFC Projects***

Grantees may reformat the appearance of forms provided by AHFC.

Historic Preservation

The Office of History and Archaeology (OHA), State of Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation reviews projects under Section 106 of the National Historic Preservation Act (36 CFR 800) and the Alaska Historic Preservation Act (A.S. 41.35.070).

AHFC, DOE, and OHA's **State Historic Preservation Office (SHPO)** have executed a programmatic agreement, which defines Weatherization Assistance Program undertakings that are exempt from Section 106 Review. DOE Subgrantees shall comply with the programmatic agreement executed in December 2010 for homes that receive DOE funds.

Similarly, an agreement between AHFC and SHPO, which pertains to State Weatherization funds, has been executed. All Grantees shall comply with the memorandum of understanding between AHFC and SHPO for homes that receive State funds.

SHPO Compliance

The Grantee shall complete the SHPO Compliance Checklist provided in this Section for each dwelling unit. This form is required in the project file.

SHPO Section 106 Review

Additionally, when proposed Weatherization activities necessitate a review by SHPO, the Grantee must submit the following to SHPO:

1. ***Alaska State Historic Preservation Office Request for Section 106 Review for HUD and DOE/AHFC Projects*** [SHPO's form]. The current version of this form is provided in this Section. It also may be completed online and printed through a link at http://dnr.alaska.gov/parks/oha/shpo/sec106.htm.
2. **Supporting Documentation** as indicated under *Additional Information* on SHPO's form.
3. **Additional Information Requested by SHPO**. On a case-by-case basis, SHPO may require further detail to make its determination.

Submissions to SHPO may be emailed to oha.revcomp@alaska.gov. SHPO does not accept faxes. Grantees may choose to mail hard copies. It is highly recommended that hard copies be sent Certified Mail with Return Receipt requested to document the date of the submission. If SHPO does not comment within 30 days, the work may proceed without a response from SHPO.

Grantees are encouraged to work with SHPO to determine the type of information that will be required for dwelling units in their service area(s).

PROGRAMMATIC AGREEMENT AMONG
THE UNITED STATES DEPARTMENT OF ENERGY, THE ALASKA HOUSING FINANCE CORPORATION AND
THE DEPARTMENT OF NATURAL RESOURCES (STATE HISTORIC PRESERVATION OFFICER)
REGARDING EECBG, SEP, AND WAP UNDERTAKINGS

WHEREAS, the United States Department of Energy (DOE) administers the following financial assistance programs: ***the Energy Efficiency and Conservation Block Grant Program*** under the Energy Independence and Securities Act of 2007 (EECBG); ***the State Energy Plan*** under the Energy Policy and Conservation Act of 1975, the State Energy Efficiency Programs Improvement Act of 1990 (SEP); and ***the Weatherization Assistance Program*** (WAP) for Low-Income Persons under Title IV of the Energy Conservation and Production Act, the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, and the American Recovery and Reinvestment Act of 2009 (ARRA); collectively referred to as the "Programs"; (See **Appendix D**. for directory of programs and their applications.)

WHEREAS, the unprecedented levels of funding available to the Programs, due in large measure to ARRA, has created a large volume of projects requiring expedited historic preservation reviews to ensure the timely obligation of funds, that create new jobs, and improve local and state economies;

WHEREAS, the Alaska State Historic Preservation Officer (SHPO) is experiencing unprecedented numbers of requests for historic preservation review of undertakings funded by all Federal Agencies, including undertakings funded by the Programs;

WHEREAS, Alaska Housing Finance Corporation (AHFC) is receiving financial assistance from DOE to carry out the Programs;

WHEREAS, the projects funded by the Programs are undertakings 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 and weatherization (undertakings);

WHEREAS, DOE has determined that these undertakings may adversely affect properties that are listed in or eligible for listing in the National Register of Historic Places (National Register) and subject to the requirements of the National Historic Preservation Act (NHPA);

WHEREAS, in accordance with 36 CFR 800.14(b)(4), the Advisory Council on Historic Preservation (the ACHP) has designated this Agreement as a Prototype Programmatic Agreement (PA), which does not require the participation or signature of the ACHP;

WHEREAS, DOE, the ACHP, and the National Conference of State Historic Preservation Officers (NCSHPO) have determined that the requirements of Section 106 can be more

effectively and efficiently fulfilled if a programmatic approach is used to stipulate roles and responsibilities, exempt undertakings from Section 106 review, establish tribal protocols, facilitate identification and evaluation of historic properties, establish treatment and mitigation measures, and streamline the resolution of adverse effects;

WHEREAS, by memorandum dated August 28, 2009 (attached as Appendix C), DOE delegated certain tasks necessary for compliance with Section 106 of the NHPA to grantees and sub grantees of funding from the Programs (Recipients);

WHEREAS, according to the August 28, 2009 memorandum, the Recipients are authorized, to initiate Section 106 compliance in accordance with 36 CFR 800.2 (c)(4);

WHEREAS, the undertakings covered under this PA are not located on Tribal lands and are primarily smaller scale activities and routine projects, without the potential for adversely affecting historic properties, rather than complex undertakings with a greater potential to adversely affect historic properties, which would require completion of the typical Section 106 review process;

WHEREAS, DOE and the ACHP were guided by the principles set forth in the ACHP's Affordable Housing Policy statement, adopted on November 9, 2006, in negotiating this Programmatic Agreement upon which this PA is based;

NOW, THEREFORE, DOE, Alaska Housing Finance Corporation and the Alaska Department of Natural Resources SHPO agree that the Programs shall be administered in accordance with the following stipulations to satisfy DOE's Section 106 responsibilities for all individual undertakings of the Programs:

STIPULATIONS

DOE, the Recipient, and the SHPO shall ensure that the following stipulations are carried out:

I. Roles and Responsibilities

A. DOE shall be responsible for providing oversight of the PA, executing PAs with SHPOs, participating in the resolution of disputes between the SHPO and the Recipient, and providing technical assistance and guidance as needed. DOE shall be responsible for government-to-government consultation with Indian tribes, unless the Indian tribe agrees to the delegation of this responsibility to AHFC.

B. AHFC shall be responsible for consulting with consulting parties and conducting Section 106 reviews in a timely manner, preparing documentation for the SHPO and DOE, and maintaining records on undertakings. Undertakings that involve properties greater than forty-five (45) years old for Public Structures and dwellings and are not listed on either Appendices A or B shall be submitted to the SHPO for review in accordance with this agreement.

C. Recipients shall ensure that the provisions of this PA apply to its sub-awards.
D. The Recipient is encouraged to use qualified professionals in conducting their Section 106 requirements.
E. The SHPO shall be responsible for reviewing project documentation and participation in consultation as set forth in this PA.
F. The ACHP shall be responsible for providing technical guidance, participating in dispute resolutions if appropriate, and monitoring the effectiveness of this PA.

II. Tribal Review

A. Execution of this PA presumes that DOE will conduct its government-to-government responsibilities with federal recognized Indian tribes. The Recipient shall not substitute for DOE in matters related to potential effects on historic properties of cultural and religious significance to Indian tribes, except with the concurrence of the Indian tribe.
B. DOE acknowledges that Indian tribes possess special expertise in assessing the National Register eligibility of properties with tribal religious and cultural significance, and requires the Recipient to consult with them, as appropriate, in identifying historic properties listed in or eligible for listing in the Area of Potential Effect (APE) of program areas.
C. If the Recipient notifies DOE that an undertaking may result in an adverse effect on cultural resources with tribal religious and cultural significance, DOE shall notify Indian tribes of individual undertakings that may result in an adverse effect on cultural resources with tribal religious and cultural significance and invite them to participate in consultations. Indian tribes and the Recipient may develop a bi-party agreement that outlines their review procedures for undertakings covered in a PA. Such agreements will be submitted to DOE for review and approval, and a copy sent to the ACHP for its records.

III. Exemptions from Section 106 review

A. The AHFC shall not submit to the SHPO undertakings in accordance with Appendices A or B as they do not have the potential to cause effects on historic properties even when historic properties may be present. The Recipient and the SHPO **may agree to modify Appendix A and/or Appendix B**, with advance notification of such modifications to the ACHP and DOE. Recipient will maintain file records with verification that undertakings were determined to be exemptions for a period of three (3) years from project completion and make them available for review if requested by DOE or the ACHP.
B. If a property has been determined to be not eligible for inclusion in the National Register within the last five (5) years from the date the Recipient made its application for DOE financial assistance, then no further review is required under this PA.

C. Recipients of any of the Programs may utilize either Appendix A or Appendix B in identifying exempt undertakings, regardless of whether the Exhibit on which the undertaking relates to another federally funded program.

IV. Review Procedures for Non-exempt Undertakings

A. For undertakings not exempted under Stipulation III, if the Recipient has an executed Section 106 Agreement per 36 CFR part 800 for Community Development Block Grants (CDBG) with the SHPO that 1) is still in effect; 2) covers the same undertakings as the DOE grant programs; and 3) is up to date with reporting to the SHPO, no separate Section 106 review is needed.

B. Otherwise, the Recipient shall review the undertaking in accordance with Stipulations VI through X below, or consistent with SHPO approved historic preservation protocols.

V. Identification and Evaluation

A. The Recipient shall establish the Area of Potential Effect (APE) for all program undertakings defined in the DOE grant agreement for the State.

B. The Recipient shall complete the identification and evaluation of historic properties utilizing existing information including the National Register, state surveys, and county and local surveys. In addition, the Recipient and SHPO may use or develop protocols that are consistent with 36 CFR Section 800.4 for the review of consensus determinations of eligibility.

C. The Recipient shall consult with Indian tribes or NHOs to determine if there are historic properties of religious or cultural significance that were not previously identified or considered in surveys or related Section 106 reviews, as appropriate.

D. Archaeology surveys may be required only for new ground disturbing project undertakings and shall be limited in scope subject to the concurrence of Indian tribes that may attach religious or cultural significance to historic properties in the project area. Project undertakings requiring more than minimal ground disturbance shall be forwarded to the SHPO or Indian tribes for concurrent review.

E. In order to avoid potential delays, prior to initiating undertakings the SHPO may review the Recipient's scopes of work for above ground surveys and archaeology surveys that are deemed necessary to administer the Recipient's Programs and to implement the terms of this PA.

F. The Recipient shall refer disputes regarding determinations of eligibility to DOE for review and referral to the Keeper of the National Register in accordance with 800.4(c)(2).

VI. Treatment of Historic Properties

A. When the Recipient and the SHPO concur that an undertaking is designed and planned in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (36 CFR Part 68, July 12, 1995 *Federal Register*) (Standards), that undertaking will not be subject to further Section 106 review.

B. The Recipient and SHPO will make best efforts to expedite reviews through a finding of "No Adverse Effect with conditions" when the Recipient and the SHPO concur that plans and specifications or scopes of work can be modified to ensure adherence to the Standards. If the undertaking cannot meet the Standards or would otherwise result in an adverse effect to historic properties, the Recipient will proceed in accordance with Stipulation VII.

VII. Resolution of Adverse Effects

A. The Recipient shall consult with the SHPO, and Native tribes as appropriate, to resolve adverse effects. The Recipient will notify DOE of the pending consultation, and DOE will participate through its designated representative.

B. The Recipient may use standard stipulations included in Attachment A of this PA, or as negotiated as part of this PA between the SHPO and the Recipient, or if the project warrants, use of an alternate PA due to the complexity of the project activity.

C. Consultation shall be coordinated to be concluded in 45-days or less to avoid the loss of funding. In the event the consultation extends beyond this period, DOE shall formally invite the ACHP to participate in consultation. The ACHP will consult with DOE regarding the issues and the opportunity to negotiate a Memorandum of Agreement (MOA). Within seven (7) days after notification, the ACHP will enter consultation and provide its recommendation for either concluding the Section 106 review through an MOA or Chairman's comment from the ACHP to the Secretary of DOE within 21 days.

D. In the case of an ACHP Chairman comment, DOE may proceed once DOE provides its response to the ACHP.

VIII. Emergency Situation Undertakings

A. When an emergency undertaking is required for historic properties associated with the undertakings, the Recipient shall allow SHPO five (5) business days to respond, if feasible. Emergencies exist when there is a need to eliminate an imminent threat to health and safety of residents as identified by local or County building inspectors, fire department officials, or other local or County officials.

1. The Recipient shall forward documentation to the SHPO for review immediately upon notification that an emergency exists. Documentation should include a) nature of the emergency; b) the address of the historic property involved; c) photographs showing the current condition of the building; and d) the time-frame allowed by local officials to respond to, or correct, the emergency situation.

2. The Recipient shall consider mitigation measures recommended by the SHPO and implement them, if feasible.

IX. Public and Consulting Party Involvement

A. The Recipient shall maintain a list of undertakings and shall make the documentation available to the public. The Recipient shall notify the SHPO if its notified of other consulting parties or public interest in any undertakings covered under the terms of the PA.

B. The Recipient, independently or at the recommendation of the SHPO, may invite interested persons to participate as consulting parties in the consultation process for adverse effects in accordance with Stipulations V, VI, and VII.

X. Administrative Coordination

A. The Recipient, in consultation with the SHPO, may develop procedures allowing for the use of local reviews conducted by Certified Local Governments (CLG) when such procedures avoid the duplication of efforts.

B. The Recipient, in consultation with the SHPO, may determine that an undertaking has already been reviewed under an existing Section 106 effect determination or agreement document, then no further Section 106 review under this PA is required.

C. The SHPO shall provide comments to the Recipient within thirty (30) days, unless otherwise agreed upon by the SHPO and the Recipient, for reviews required under the terms of this PA with the exception of emergency undertakings. In the event that the SHPO fails to comment within the established period, the Recipient can assume the SHPO has concurred, and proceed.

D. The Recipient shall advise sub-grantees in writing of the provisions in Section 110 (k) of the Act and will advise the sub-grantees that Section 106 reviews may be compromised when project undertakings are initiated prematurely.

E. The SHPO and the Recipient shall make every effort to expedite Section 106 reviews for a period of less than the 30-day review when consistent with the terms of the DOE grant agreements and the Recipient intends to utilize the services of qualified professionals.

F. For projects that will require either an Environmental Assessment or an Environmental Impact Statement under the National Environmental Policy Act (NEPA), nothing contained in this PA shall prevent or limit the Recipient and DOE from utilizing the procedures set forth in 36 CFR 800.8 to coordinate and conduct the historic preservation review in conjunction with the NEPA review.

XI. Discoveries

If historic properties are discovered or unanticipated effects on historic properties located within a project's APE after the undertaking has been initiated, the Recipient will implement the following procedures:

A. The Recipient shall immediately cease all operations for the portion of the undertaking with the potential to affect an historic property;

B. The sub grantee shall advise the Recipient of the National Register eligibility of the historic property and the potential of the undertaking to impact its qualifying characteristics and an explanation of the whether the SHPO or Native tribes and concur with proposed avoidance, treatment plan or mitigation plan.

C. The Recipient or DOE shall notify Native tribes of any discoveries that have the potential to adversely affect sites or buildings of religious or cultural significance to them. After reviewing such discoveries, the Native tribes can request further consultation on the project by notifying DOE, ACHP, and the SHPO in writing.

D. The Recipient or sub grantee shall implement the avoidance, treatment or mitigation plan and advise the Recipient and DOE, if appropriate, of the satisfactory completion of the approved work. Once the approved work is complete may resume the activities that were halted to address the discovery situation.

XII. Dispute Resolution

A. Should the SHPO object within the time frames outlined in this PA to any project undertakings, the Recipient shall **consult further with the** SHPO to attempt to remove the basis for the SHPO's objection. In the event that the SHPO's objection is not withdrawn, then the Recipient shall refer the matter to DOE. The Recipient shall forward all documentation relevant to DOE, who will notify and consult with the ACHP.

B. The ACHP will provide its recommendations, if any, within 21 days following receipt of relevant documentation. DOE will take into account the ACHP's recommendations or formal comments in reaching a final decision regarding the dispute.

XIII. Reporting and Monitoring

A. DOE, the ACHP, and the SHPO may monitor any undertakings carried out pursuant to this PA. The ACHP may review undertakings, if requested by DOE. DOE shall be entitled to address and make determinations on overall policy or administrative issues related to the implementation of these Programs.

B. The Recipient shall adhere to DOE's established protocols for ARRA reporting program undertakings.

C. DOE will submit annual reports to ACHP and NCSHPO commencing October 15, 2010 summarizing the Programs' undertakings, to include data on number of undertakings, the number of exempt undertakings, and reviews conducted under this PA.

XIV. Amendments

DOE, the SHPO, or the Recipient may request that this PA be amended, whereupon DOE and the SHPO, and the ACHP, if involved, will consult to

consider such an amendment. Any such amendments shall be developed and executed among DOE, the Recipient, and the SHPO in the same manner as the original PA, and pertain only to this State PA.

XV. Duration of Agreement

This PA will be valid for **Five (5) years** from the date of execution, as verified with DOE filing the PA with the ACHP.

XVI. Termination of Agreement

DOE, the SHPO, or the Recipient may terminate the PA, provided that the party proposing termination notifies the other signatories and the ACHP in writing explaining the reasons for termination and affording the other signatories at least thirty (30) days to consult and seek alternatives to termination.

Signed:

Date: 12/8/10

Daniel R. Fauske,
Chief Executive Officer/ Executive Director
Alaska State Energy Office
Alaska Housing Finance Corporation

Signed:

Date: 14 December 2010

Judith E. Bittner,
Deputy State Historic Preservation Officer
Office of History & Archaeology
Department of Natural Resources

Signed:

Date: 12/15/10

LeAnn Oliver, Program Manager
Office of Energy Efficiency and Renewable Energy
Office of Weatherization and Intergovernmental Programs
United States Department of Energy

APPENDIX A—WAP UNDERTAKINGS EXEMPT FROM SECTION 106 REVIEW

All undertakings will be done in accordance with applicable local building codes or the International Building Code, where applicable. In accordance with 36 CFR 800.3(a)(1), the following undertakings have been determined to have no potential to cause effects on historic properties:

A. Exterior Work

1) Air sealing of the building shell, including caulking, weather-stripping, and other air infiltration control measures on windows and doors, and installing thresholds in a manner that does not harm or obscure historic windows or trim.
2) Thermal insulation, such as non-toxic fiberglass and foil wrapped, in walls, floors, ceilings, attics, and foundations in a manner that does not harm or damage historic fabric.
3) Blown in wall insulation where no holes are drilled through exterior siding.
4) Removable film on windows (if the film is transparent), solar screens, or window louvers, in a manner that does not harm or obscure historic windows or trim.
5) Reflective roof coating in a manner that closely resembles the historic materials and form, or with materials that restore the original feature based on historic evidence, and in a manner that does not alter the roofline, or where not on a primary roof elevation or visible from the public right-of-way.
6) Repair of minor roof and wall leaks prior to insulating attics or walls, provided repairs closely resemble existing surface composite.
7) Weatherization of Mobile Homes and Trailers.

B. Interior Work

Special Note: Undertakings to interior spaces where the work will not be visible from the public right of way; no structural alterations are made; no demolition of walls, ceilings or floors occurs; no drop ceilings are added; or no walls are leveled with furring or moved, should be automatically excluded from **SHPO** review. This work includes:

1. Energy efficiency work within the building shell:
a. Thermal insulation in walls, floors, ceilings, attics, crawl spaces, ducts and foundations.
b. Blown in wall insulation where no decorative plaster is damaged.
c. Plumbing work, including installation of water heaters.
d. Electrical work, including improving lamp efficiency.
e. Sealing air leaks using weather stripping, door sweeps, and caulk and sealing major air leaks associated with bypasses, ducts, air conditioning units, etc.
f. Repair or replace water heaters.
g. Adding adjustable speed drives such as fans on air handling units, cooling tower fans, and pumps.
h. Install insulation on water heater tanks and water heating pipes.
i. Install waste heat recovery devices, including 'desuperheater' water heaters, condensing heat exchangers, heat pump and water heating heat recovery systems, and other energy recovery equipment.
j. Repair or replace electric motors and motor controls like variable speed drives.

k. Incorporate other lighting technologies such as dimmable ballasts, day lighting controls, and occupant controlled dimming.

2. Work on heating and cooling systems:
a. Clean, tune, repair or replace heating systems, including furnaces, oilers, heat pumps, vented space heaters, and wood stoves.
b. Clean, tune repair or replace cooling systems, including central air conditioners, window air conditioners, heat pumps, and evaporative coolers.
c. Install insulation on ducts and heating pipes.
d. Conduct other efficiency improvements on heating and cooling systems, including replacing standing pilot lights with electronic ignition devices and installing vent dampers.
e. Modify duct and pipe systems so heating and cooling systems operate efficiently and effectively, including adding return ducts, replace diffusers and registers, replace air filters, install thermostatic radiator controls on steam and hot water heating systems.
f. Install programmable thermostats, outdoor reset controls, UL listed energy management systems or building automation systems and other HVAC control systems.

3. Energy efficiency work affecting the electric base load of the property:
a. Convert incandescent lighting to fluorescent.
b. Add reflectors, LED exit signs, efficient HID fixtures, and occupancy (motion) sensors.
c. Replace refrigerators and other appliances.

4. Health and safety measures:
a. Installing fire, smoke or carbon monoxide detectors / alarms.
b. Repair or replace vent systems on fossil-fuel-fired heating systems and water heaters to ensure that combustion gases draft safely to outside.
c. Install mechanical ventilation, in a manner not visible from the public right of way, to ensure adequate indoor air quality if house is air-sealed to building tightness limit.

APPENDIX B – SEP AND EECBG UNDERTAKINGS EXEMPT FROM SECTION 106 REVIEW

A. Category 1 - No Consultation Required

In addition to the undertakings provided in ***Exhibit A (WAP Undertakings exempt from Section 106 Review)***, DOE and the SHPO have concluded that the following undertakings do not have the potential to cause effects on historic properties per 36 CFR § 800.3(a)(1):

1. General efficiency measures not affecting the exterior of the building:

a. Energy audits and feasibility studies.
b. Weatherization of mobile homes and trailers.
c. Caulking and weather-stripping around doors and windows in a manner that does not harm or obscure historic windows or trim.
d. Water conservation measures – like low flow faucets, toilets, shower heads, urinals – and distribution device controls.
e. Repairing or replacing in kind existing driveways, parking areas, and walkways with materials of similar appearance.
f. Excavating to gain access to existing underground utilities to repair or replace them, provided that the work is performed consistent with previous conditions within the building footprint.
g. Ventilating crawl spaces.
h. Replacement of existing HVAC equipment including pumps, motors, boilers, chillers, cooling towers, air handling units, package units, condensers, compressors, heat exchangers that do not require a change to existing ducting, plumbing, electrical, controls or a new location, or if ducting, plumbing, electrical and controls are on the rear of the structure or not visible from any public right of way.
i. Adding or replacing existing building controls systems including HVAC control systems and the replacement of building-wide pneumatic controls with digital controls, thermostats, dampers, and other individual sensors like smoke detectors and carbon monoxide detectors (wired or non-wired).
j. New installation of non-hard wired devices including photo-controls, occupancy sensors, carbon monoxide, thermostats, humidity, light meters and other building control sensors, provided the work conforms with applicable state and local permitting requirements.
k. Adding variable speed drive motors.
l. Insulation of water heater tanks and pipes.
m. Furnace or hot water tank replacement that does not require a visible new supply or venting.

2. Insulation measures not affecting the exterior of the building:
a. Thermal insulation installation in walls, floors and ceilings (excluding spray foam insulation).
b. Duct sealing, insulation, repair or replacement in unoccupied areas.
c. Attic insulation with proper ventilation; if under an effective R8 - add additional R-19 up to R-38.
d. Band joist insulation - R-11 to R19 as applicable.
e. Water heater tank and pipe insulation.

3. Electric base load measures not affecting the exterior of the building:
a. Appliance replacement (upgrade to Energy Star appliances).
b. Compact fluorescent light bulbs.
c. Energy efficient light fixtures, including ballasts (Replacement).
d. LED light fixtures and exit signs (Replacement).
e. Upgrade exterior lighting (replacement with metal halide bulbs, LEDs, or others).

along with ballasts, sensors and energy storage devices not visible from any public right of way.

B. Category 2 - No Consultation Required if SOI Standards are Adhered to and Verified by Qualified Historical Archeologist Staff, if Applicable.

1. Efficiency and repair measures:

a. Painting over previously painted exterior surfaces, provided destructive surface preparation treatments are not used (such as water-blasting, sandblasting and chemical removal).

b. Installation or replacement of downspout extensions, provided that the color of the extensions is historically appropriate for the period and style of the property

c. Repairing or upgrading electrical or plumbing systems and installing mechanical equipment, in a manner that does not permanently change the appearance of the interior or exterior of the building.

d. Installation of new HVAC equipment (such as pumps, motors, boilers, chillers, cooling towers, air handling units, package units, condensers, compressors, or heat exchangers) in a manner that does not permanently change the appearance of the building.

e. Integrated shingle-style or thin film solar systems on the rear roof of the structure, behind the parapet or not visible from the public right of way.

f. Solar systems (including photovoltaic and solar thermal) not visible from the public right of way and if ground-mounted can be installed without ground disturbance and if roof-mounted will not require new building reinforcement.

g. Wind system additions to existing wind power facilities that will not require ground disturbance and if building mounted will not require building reinforcement.

h. Lead-based paint abatement in accordance with the Standards and Preservation Brief #37.

i. Building cleaning in accordance with the Standards and Preservation Briefs #1, #6, and #10.

j. Repairing masonry, including re-pointing and rebuilding chimneys in accordance with the Standards and Preservation Brief # 2.

k. New lighting controls including photo-sensors and shading elements if not visible from the public right of way.

l. New metering devices in a manner that does not permanently change the appearance of the interior or exterior of the building, or if the addition is on the exterior of the structure and is not visible from the public right of way.

m. New water efficient fixtures and fittings in a manner that does not permanently change the appearance of the interior or exterior of the building.

2. Installation or repair of roofing, siding, and ventilation:

a. White Roofs, Cool Roofs, Green Roofs, Sod or Grass Roofs not visible from the public right-of-way.

b. Rainwater catches and/or gray water systems not viewable from the public right of way.

c. Repair or replacement of existing exterior siding provided that new siding closely resembles the existing siding in dimension, profile and texture.
d. Flat or shallow pitch roof replacement (shallow pitch is defined as a pitch with a rise-to-run ratio equal to or less than 3" to 12") with no part of the surface of the roof visible from the ground.
e. Roof repair or replacement with materials that closely resemble the historic materials and form, or with replacement materials that are close to the original in color, texture, composition and form to restore the original feature based on historic evidence, and in a manner that does not alter the roofline.
f. Installing vents (such as continuous ridge vents covered with ridge shingles or boards, roof vents, bath and kitchen vents, soffit and frieze board vents or combustion appliance flues) if not located on a primary roof elevation or not visible from the public right-of-way.
g. Installing foundation vents, if painted or finished to match the existing foundation material.

3. Windows and doors:
a. Installing storm windows, storm doors or wood screen doors in a manner that does not harm or obscure historic windows, doors or trim.
b. Installing insulated exterior replacement doors where the door openings are not altered and are not visible from the public right-of-way.
c. Window or glazing treatments that do not change the appearance of the interior or exterior of the building, or if the addition is on the exterior of the structure.

APPENDIX C – AUGUST 28, 2009 DELEGATION MEMORANDUM

(next page)

ATTACHMENT A: STANDARD MITIGATION MEASURES FOR ADVERSE EFFECTS

The Recipient and the SHPO may develop and execute an Agreement that includes one or more of the following Standard Mitigation Measures, as may be modified to a particular activity, with the concurrence of both parties, for undertakings determined to have an adverse effect on listed or eligible historic resources. The ACHP will not be a party to these Agreements. However, the Recipient must submit a copy of each signed Agreement to the SHPO, and the ACHP within 30 days after it is signed by the Recipient and the SHPO.

1. Recordation

The Recipient shall ensure that the historic property is recorded prior to its alteration in accordance with methods or standards established in consultation with the SHPO. The SHPO shall identify appropriate archive locations for the deposit of recordation materials and the Recipient shall be responsible for submitting required documentation to identified archive locations. The Recipient and the SHPO may mutually agree to waive the recordation requirement in situations where the integrity of the building has been compromised or other representative samples of a similar historic resources has been previously recorded.

2. Architectural Salvage

The Recipient, in consultation with the SHPO, shall identify significant architectural features for salvage, and appropriate parties to receive the salvaged features. The Recipient shall ensure that any architectural features identified for salvage are salvaged prior to initiation of undertakings and properly stored. When feasible, and determined appropriate in consultation with SHPO, salvaged architectural features shall be reused in other preservation projects.

3. Rehabilitation

The Recipient shall ensure that the treatment of historic properties which the SHPO has determined does not meet the *Standard,* or SHPO approved design guidelines, is carried out in accordance with treatments agreed upon by the Recipient and the SHPO and are incorporated in the final plans and specifications. The final plans and specifications shall be approved by the SHPO prior to initiating the undertaking.

4. New Construction

The Recipient shall ensure that the design of new buildings, or additions, which the SHPO has determined does not meet the *Standards*, or SHPO approved design guidelines, is carried out in accordance with the final plans and specifications reviewed and approved by the SHPO prior to initiating the undertaking.

5. Archaeology

In cases where the undertaking will cause unavoidable adverse effects to National Register eligible archaeological properties, the Recipient shall consult with the SHPO to determine whether data recovery or some other treatment measure is in the public interest. If data recovery is the agreed upon treatment measure, the Recipient shall consult further with the SHPO to develop and implement a data recovery plan for those portions of the historic property that will be adversely affected. The data recovery plan shall:

- be based on firm background data, sound planning, and accepted archaeological methods;
- be consistent with applicable State laws and regulations;
- be accomplished in a thorough, efficient manner, using the most cost effective

techniques practicable;
- provide for appropriate curation of archeological materials and records, and
- provide for reporting and interpretation of what has been learned in a format understandable and accessible to the public;
- be consistent with the National Park Service's *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (at: http://www.nps.gov/history/local-law/arch_stnds_7.htm), and shall take into account the ACHP's publications, *Recommended Approach for Consultation on Recovery of Significant Information from Archeological Sites* (1999), ACHP Section 106 *Archaeology Guidance* (at: http://www.achp.gov/archguide/), and any archaeological guidance issued by the SHPO.

APPENDIX D - List of Covered Programs.

- Low Income Weatherization Assistance Program (LIWAP)
- State Energy Program (SEP)
- Energy Efficiency Conservation Block Grant Program (EECBG)

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Extension of the Duration of Programmatic Agreements Based on the Department of Energy Prototype Programmatic Agreement for Its Weatherization Assistance Program, State Energy Program, and Energy Efficiency and Conservation Block Grant; Notice of Program Comment

AGENCY: Advisory Council on Historic Preservation.

ACTION: The Advisory Council on Historic Preservation has issued a Program Comment for Extending the Duration of Programmatic Agreements based on the Department of Energy Prototype Programmatic Agreement for its Weatherization Assistance Program, State Energy Program, and Energy Efficiency and Conservation Block Grant.

SUMMARY: The Advisory Council on Historic Preservation (ACHP) issued a Program Comment at the request of the U.S. Department of Energy that allows its program of tailored compliance with Section 106 of the National Historic Preservation Act to continue under the prototype Programmatic Agreement (PA) for the Office of Weatherization and Intergovernmental Programs Weatherization Related Grant Programs: Weatherization Assistance Program (WAP), State Energy Program (SEP), and Energy Efficiency and Conservation Block Grant (EECBG).

DATES: The Program Comment was issued by the ACHP on March 11, 2013.

ADDRESSES: Address all comments concerning the Program Comment to Lee Webb, Liaison to the Department of Energy, Office of Federal Agency Programs, Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue NW., Suite 803, Washington, DC 20004. You may also submit comments via fax at (202) 606–8647 or via electronic mail at *lwebb@achp.gov.*

FOR FURTHER INFORMATION CONTACT: Lee Webb, (202) 606–8583, *lwebb@achp.gov.*

SUPPLEMENTARY INFORMATION: Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their undertakings on historic properties and to provide the ACHP a reasonable opportunity to comment with regard to such undertakings. The ACHP has issued the regulations that set forth the process through which federal agencies comply with these duties. Those regulations are codified under 36 CFR part 800 (Section 106 regulations).

Under Section 800.14(e) of those regulations, agencies can request the ACHP to provide a "Program Comment" on a particular category of undertakings in lieu of conducting individual reviews of each individual undertaking under such category, as set forth in 36 CFR 800.4 through 800.7. An agency can meet its Section 106 responsibilities with regard to the effects of those undertakings by taking into account the ACHP's Program Comment and following the steps set forth in that comment.

I. Background

The ACHP has issued a Program Comment to the U.S. Department of Energy (DOE) to extend the duration of agreements based on the DOE prototype PA for its WAP, SEP, and EECBG programs. The ACHP membership voted in favor of issuing the Program Comment via an unassembled vote that concluded on March 11, 2013.

The Program Comment extends the duration of the existing 44 agreements executed under the prototype PA until December 31, 2020, and provides the same duration period for any future agreements that may be executed under the prototype PA. Nothing in the Program Comment alters or modifies any other provisions of the prototype PA or the 44 agreements, including the ability of the parties to amend or terminate an executed agreement prior to the expiration date.

According to the requirements for obtaining a Program Comment, the DOE formally requested the ACHP comment on its continuing use of the prototype PA to tailor its Section 106 compliance for undertakings funded by WAP, SEP, and EECBG in each state in lieu of renegotiating and amending each executed agreement. The prototype PA provided a suggested duration clause of three years for each agreement from the date of final signature and filing with ACHP. As a result, DOE currently has 44 executed agreements based on the prototype PA, with various expiration dates dependent on their respective dates of execution. The first PAs will start expiring in mid-March of 2013 and, with these first expiration dates fast approaching, there is an immediate need to extend the expiration date of the PAs developed under the prototype PA. The use of the Program Comment to achieve this goal avoids the need to negotiate extensions to each of the 44 individual agreements. The ACHP has concluded that the use of a Program Comment to achieve this goal is the most efficient mechanism for doing so and the most expedient way to ensure that these successful agreements remain in force.

The Program Comment does not restrict the use and application of the prototype PA in states where they have not yet been developed by allowing any new agreements developed under the prototype to extend to 2020. This provides continuity in the Section 106 review for those undertakings covered by existing agreements and any new agreements executed under the prototype PA. By extending the duration of these agreements, the Program Comment provides the DOE, SHPOs, and state agency recipients with the option to continue operating under the prototype PA and the subsequently executed agreements. However, any party may amend or terminate an agreement in accordance with the amendment and termination provisions prior to December 31, 2020.

The ACHP received DOE's request for the Program Comment on January 31, 2013, and took steps to inform the public and stakeholders about the proposed Program Comment. Prior to receiving the formal request from DOE, ACHP hosted, with DOE's participation, listening sessions for State Historic Preservation Officers (SHPOs) to discuss the upcoming expiration of the agreements executed under the prototype PA and the possibility of developing a new program alternative. The ACHP and DOE then coordinated to develop the text of the Program Comment. The ACHP published a notice of the proposed Program Comment in the **Federal Register** on February 22, 2013, for a one-week comment period (78 FR 12336–12337).

In accordance with 36 CFR 800.14(e), the ACHP is responsible for obtaining the views of SHPOs and Tribal Historic Preservation Officers (THPOs) before reaching a decision on issuing a Program Comment. On February 22, 2013, the ACHP notified SHPOs and the Section 106 contacts for Indian tribes and Native Hawaiian organizations of the proposed Program Comment via electronic mail and asked for their review and comment. The DOE provided the draft Program Comment and brief background narrative to its state agency recipients for their review and comment. All comments on the draft Program Comment from SHPOs, THPOs, Indian tribes, Native Hawaiian organizations, DOE state agency recipients, and members of the public were due to ACHP staff on March 1, 2013.

Various substantive comments from stakeholders and the public were received and considered by the ACHP, as noted below. The majority of comments received were in support of

the Program Comment and did not require any revisions to the draft.

Two SHPO comments asked for clarification as to whether the Program Comment would apply to state level interagency agreements that were developed prior to the prototype PA. Under Stipulation III of the prototype PA, DOE can choose to recognize an interagency agreement if the agreement closely resembled the prototype PA in establishing review efficiencies and providing exemptions from review for routine activities. To recognize such an agreement under the prototype PA, DOE, the SHPO and the state agency receiving DOE funds would sign a cover agreement. In response to these comments, the Program Comment was revised to clarify that it would be applicable to agreements recognized via cover agreement under Stipulation III of the prototype PA.

Another SHPO comment asked for clarification as to whether the signatories on the executed PAs (DOE, SHPOs, and state agency recipients) were required to take any additional action to extend the PA, once the Program Comment was issued. To address this comment, the Program Comment was revised to include language that stated, "by the issuance of the Program Comment," the PAs based on the DOE prototype PA could extend through December 31, 2020. The ACHP and DOE will send follow-up guidance to the stakeholders as needed to clarify the Program Comment's applicability and use.

Another comment asked for clarification about how the prototype PA itself was developed and implemented and whether there was any tribal involvement in DOE projects in Washington and Oregon. The ACHP is preparing a written response to this commenter to explain the development of the prototype PA, and is coordinating with DOE to provide the additional information as requested. No revisions were made to the Program Comment as a result of this comment.

The remaining comments from state agencies and SHPOs expressed support for the Program Comment and did not require any revisions to the draft text.

II. Final Text of the Program Comment

The following is the text of the issued Program Comment:

Program Comment To Extend the Duration of Agreements Executed Under the Department of Energy's Prototype Programmatic Agreement

I. Introduction

The Department of Energy's (DOE) Office of Weatherization and Intergovernmental Programs (OWIP) provides financial assistance to state agency applicants for three weatherization related grant programs: Weatherization Assistance Program (WAP), State Energy Program (SEP), and Energy Efficiency and Conservation Block Grant (EECBG). DOE has determined that activities carried out by these funded programs constitute undertakings with the potential to affect historic properties. Therefore, DOE must comply with Section 106 and its implementing regulations, 36 CFR Part 800, for these undertakings.

The Advisory Council on Historic Preservation (ACHP) and DOE began a partnership in August 2009 to explore possible program alternatives to tailor the Section 106 process for these undertakings in anticipation of the dramatic increase in project funding as a result of American Recovery and Reinvestment Act. DOE, in consultation with the ACHP and the National Conference of State Historic Preservation Officers (NCSHPO), developed a prototype Programmatic Agreement (PA) to cover three weatherization related grant programs and to create efficiencies in the administration of these OWIP grants: WAP, SEP, and EECBG. The prototype PA identifies a category of routine undertakings with limited potential to affect historic properties and exempts them from further review. The ACHP's Chairman designated the prototype PA on February 8, 2010. Under the terms of the prototype PA, DOE, the State Historic Preservation Officer (SHPO), and the relevant state agency receiving OWIP grants can execute subsequent agreements without ACHP involvement. Execution of an agreement pursuant to the prototype PA presumes that DOE will conduct its government-to-government consultation responsibilities with federal recognized Indian tribes and its Section 106 consultation requirements with Native Hawaiian organizations. If DOE is notified that a particular undertaking may result in an adverse effect on historic properties of religious and cultural significance to Indian tribes or Native Hawaiian organizations, DOE must invite such Indian tribes or Native Hawaiian organizations to participate in consultation for the affected project.

Since its designation, DOE has used the prototype PA to successfully negotiate and execute 44 programmatic agreements with SHPOs and state agencies receiving DOE OWIP grants. DOE's direct recipients may use the executed state agreement developed under the prototype PA as well. The prototype PA initially proposed a three year duration clause from the time of execution and filing with the ACHP. As a result, the 44 agreements executed under the prototype PA have different expiration dates. Several of the agreements will expire in mid-March 2013. It is now DOE's and the ACHP's intention that these agreements should extend beyond the three year term.

II. Background

During the development of the prototype PA in 2009, the ACHP invited SHPOs, Indian tribes, and Native Hawaiian organizations to participate in a series of teleconferences to discuss the prototype PA and share information on which DOE programs would be covered by the new program alternative. The tribes that participated in the teleconferences noted that the vast majority of funding from the three programs did not relate to undertakings on or affecting historic properties on tribal lands, and were not interested in participating further in the process to develop the prototype PA. The SHPOs were generally supportive of DOE's intent to pursue a program alternative such as the prototype PA that would assist them in managing their workload by streamlining the review of certain undertakings. Further, the SHPOs liked the format of the prototype PA as they would be able to modify individual agreements under its terms to account for state-specific issues.

As a result of the partnership with ACHP and the development and the administration of the prototype PA, DOE established internal and external training; recognized best management practices; and utilized DOE guidance and directives to ensure that the DOE weatherization programs were properly implemented in compliance with Section 106. The prototype PA established review efficiencies and protocols which allowed for the grant programs to expedite the weatherization efforts of the homes of many low income individuals across the country, as well as assisted communities in funding energy efficiency, renewable energy, and weatherization projects for public buildings such as schools and courthouses. Due to the success of the prototype PA for DOE's weatherization programs, other departments within DOE have sought ACHP's and OWIP staff's guidance and direction for meeting their historic preservation compliance responsibilities.

In the past year, DOE and the ACHP have discussed how to extend and build upon the program established by the prototype PA. In December 2012, DOE and the ACHP held listening sessions with SHPOs. The discussions focused

on the effectiveness of the prototype PA and the feasibility of pursuing a new program alternative. The SHPOs that participated in those listening sessions were generally supportive of the development, implementation, and effectiveness of the prototype PA and expressed a preference to continue using the PAs to provide streamlining of reviews and other review efficiencies. Further, in developing the text of this Program Comment, the ACHP provided an opportunity for SHPOs, Indian tribes, Native Hawaiian organizations, and state agencies to comment on its applicability and terms.

This Program Comment extends the duration of the existing 44 agreements executed under the prototype PA until December 31, 2020, and provides the same duration period for any future agreements that may be executed under the prototype PA. Nothing in this Program Comment alters or modifies any other provisions of the prototype PA or the 44 agreements, including the ability of the parties to amend or terminate an executed agreement prior to the expiration date.

III. Establishment and Authority

This Program Comment was issued by the ACHP on March 11, 2013 pursuant to 36 CFR 800.14(e).

IV. Date of Effect

This Program Comment went into effect on March 11, 2013.

V. Use of This Program Comment To Extend the Duration of the Existing Agreements Executed Under the DOE Prototype PA and for New Agreements Executed Pursuant to the Prototype PA

By the issuance of this Program Comment, the DOE may continue, through December 31, 2020, complying with its responsibilities under Section 106 of the National Historic Preservation Act for its WAP, SEP, and EECBG in the relevant States using the 44 agreements currently executed, including those agreements that were recognized by Stipulation III, and those to be executed, under the "Prototype Programmatic Agreement between the United States Department of Energy, the State Energy Office and the State Historic Preservation Office regarding EECBG, SEP and WAP Undertakings," designated by the ACHP on February 8, 2010, regardless of the duration clause of those agreements. However, if any of those agreements is terminated under its own terms, DOE may no longer use it to comply with its Section 106 responsibilities in the relevant State. This will provide continuity in the Section 106 review for those undertakings covered by the existing and any new agreements executed under the prototype PA. This Program Comment does not alter or modify any provisions of the prototype PA or the 44 executed agreements other than their duration clauses.

VI. Amendment

The ACHP may amend this Program Comment after consulting with DOE, NCSHPO, and other parties as appropriate, and publishing notice in the **Federal Register** to that effect.

VII. Sunset Clause

This Program Comment will terminate on December 31, 2020, unless it is amended to extend the period in which it is in effect.

VIII. Termination

The ACHP may terminate this Program Comment by publication of a notice in the **Federal Register** thirty (30) days before the termination takes effect.

Authority: 36 CFR 800.14(e).

Dated: March 11, 2013.

John M. Fowler,

Executive Director.

[FR Doc. 2013–05917 Filed 3–13–13; 8:45 am]

BILLING CODE 4310–K6–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. FR–5683–N–23]

Notice of Submission of Proposed Information Collection to OMB: Low Income Housing Tax Credit Database

AGENCY: Office of the Chief Information Officer, HUD.

ACTION: Notice.

SUMMARY: The proposed information collection requirement described below has been submitted to the Office of Management and Budget (OMB) for review, as required by the Paperwork Reduction Act. HUD is soliciting public comments on the subject proposal.

Section 2835(d) of the Housing and Economic Recovery Act, or HERA, (Pub. L. 110–289, approved July 30, 2008) amends Title I of the U.S. Housing Act of 1937 (42 U.S.C. 1437 et seq.) (1937 Act) to add a new section 36 (to be codified as 42 U.S.C. 1437z–8) that requires each state agency administering tax credits under section 42 of the Internal Revenue Code of 1986 (low-income housing tax credits or LIHTC) to furnish HUD, not less than annually, information concerning the race, ethnicity, family composition, age, income, use of rental assistance under section 8(o) of the U.S. Housing Act of 1937 or other similar assistance, disability status, and monthly rental payments of households residing in each property receiving such credits through such agency. New section 36 requires HUD to establish standards and definitions for the information to be collected by state agencies and to provide states with technical assistance in establishing systems to compile and submit such information and, in coordination with other federal agencies administering housing programs, establish procedures to minimize duplicative reporting requirements for properties assisted under multiple housing programs. In 2010, OMB approved the first collection instrument used for the collection of LIHTC household information (OMB Approval No. 2528–0165, expiration date 05/31/2013). HUD used the previously approved form to collect data on LIHTC tenants in 2009, 2010 and 2011. Renewal of this form is required for HUD to remain in compliance with the statute.

DATES: *Comments Due Date: April 15, 2013.*

ADDRESSES: Interested persons are invited to submit comments regarding this proposal. Comments should refer to the proposal by name and/or OMB approval Number (2528–0165) and should be sent to: HUD Desk Officer, Office of Management and Budget, New Executive Office Building, Washington, DC 20503; fax: 202–395–5806. Email: *OIRA_Submission@omb.eop.gov* fax: 202–395–5806.

FOR FURTHER INFORMATION CONTACT: Colette Pollard, Reports Management Officer, QDAM, Department of Housing and Urban Development, 451 Seventh Street SW., Washington, DC 20410; email Colette Pollard at *Colette.Pollard@hud.gov*. or telephone (202) 402–3400. This is not a toll-free number. Copies of available documents submitted to OMB may be obtained from Ms. Pollard.

SUPPLEMENTARY INFORMATION: This notice informs the public that HUD has submitted to OMB a request for approval of the Information collection described below. This notice is soliciting comments from members of the public and affecting agencies concerning the proposed collection of information to: (1) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE ALASKA HOUSING FINANCE CORPORATION
AND
THE ALASKA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF PARKS AND OUTDOOR RECREATION, OFFICE OF HISTORY AND ARCHAEOLOGY
REGARDING
CULTURAL RESOURCE REVIEWS OF STATE FUNDED CONSTRUCTION PROJECTS

WHEREAS, the State of Alaska (State) may designate state agencies or public corporations owned by the State to administer various formula grant programs on its behalf (a state Designee); and

WHEREAS, the State has designated Alaska Housing Finance Corporation (AHFC) as administrators of state funds; and

WHEREAS, the DNR Commissioner has responsibility for the protection of historical and archaeological resources (i.e., "Cultural Resources") under the Alaska Historic Preservation Act (AS 41.35), and this has been delegated to the Division of Parks and Outdoor Recreation, administered by the Office of History and Archaeology (OHA); and

WHEREAS, AS 41.35.010 states "It's the policy of the State to preserve and protect the historic, prehistoric, and archaeological resources of Alaska from loss, desecration, and destruction so that the scientific, historic, and cultural heritage embodied in these resources may pass undiminished to future generations. To this end, the legislature finds and declares that the historic, prehistoric, and archaeological resources of the state are properly the subject of concerted and coordinated efforts exercised on behalf of the general welfare of the public in order that these resources may be located, preserved, studied, exhibited, and evaluated;"; and

WHEREAS, AHFC has determined that certain state funded activities have limited potential to affect Historic Properties, Historic Districts and/or Archaeological Districts; and have consulted with OHA;

NOW THEREFORE, AHFC and OHA adopt the following guidelines for streamlining project reviews and will ensure that the provisions of the MOU apply to AHFC and its sub-grantees.

Undertakings exempt from review:

All undertakings will be done in accordance with applicable local buildings codes or the International Building Code, where applicable. The following undertakings have been determined to have limited potential to cause effects on historic properties and may be approved by AHFC or their sub grantees without further consultation with OHA:

I. EXEMPT ACTIVITIES

A. Non-invasive/Non-destructive Activities:

a. Energy audits and feasibility studies.

B. Properties that are Less than 45 years old:

a. Activities on residential or non-residential buildings, structures or facilities, including manufactured housing or mobile homes, (collectively called "Property" or "Properties" herein) less than forty five years old when not adding square footage.

C. Work on properties Older than 45 years old or involving ground disturbance as follows:

Building Shell Measures

The measures should not alter or detract from those qualities that make the Property eligible for the National Register of Historic Places or Alaska Historic Landmarks.

1. Air sealing of the building shell, including caulking, weather-stripping, door sweeps, and other air infiltration control measures on windows and doors, and installing thresholds in a manner that does not harm or obscure historic windows or trim.
2. Sealing major air leaks associated with bypasses, ducts, air conditioning units, when consistent with appearance of the building
3. Thermal insulation, such as non-toxic fiberglass and foil wrapped, in walls, floors, roofs, crawl spaces, ceilings, attics, and foundations in a manner that does not harm or damage historic fabric and as long as these measures do not induce, retain, or introduce moisture into the building.
4. Blown in wall insulation where no holes are drilled through exterior siding.
5. Removable film on windows (if the film is transparent), solar screens, or window louvers, in a manner that does not harm or obscure historic windows or trim.
6. Reflective roof coating in a manner that closely resembles the historic materials and form, or with materials that restore the original feature based on historic evidence, and in a manner that does not alter the roofline, or where not on a primary roof elevation or visible from the public right-of-way.
7. Repair of minor roof and wall leaks prior to insulating attics or walls, provided repairs closely resemble existing surface composite.
8. Repair of existing window, door, and porch screens and storm windows or doors.
9. Removing deteriorated or damaged paint or coatings down to the next sound layer by hand scraping or sanding. All abrasive methods, sandblasting and water blasting are specifically prohibited. Encapsulation of lead-based paint is acceptable.
10. Repair and/or replacement in kind of existing roofing material provided the color meets the standard of the Tribe/City/Borough/State or is the existing color.
11. Installation of temporary construction related structures such as scaffolding, screening, fences or protective walkways.
12. Weatherization of mobile homes and trailers.

Ground Disturbance Activities

1. Repairing or replacing in kind existing driveways, parking areas, and walkways with materials of similar appearance.
2. Excavating to gain access to existing underground utilities to repair or replace them, provided that the work is performed consistent with previous conditions **within the building footprint.**
3. Excavation to install exterior, below-grade insulation, to a depth not greater than 6-inches below the bottom of the footing or foundation, and limited to the area within 6-feet of the perimeter of the building.

Electric Base Load & Lighting measures

If located within a Historic District:

1. Upgrade exterior lighting (replacement with metal halide bulbs, LEDs, or others) along with ballasts, sensors and energy storage devices **not visible** from any public right of way.
2. Upgrades or improvements to exterior bulbs **only** (e.g., incandescent to LED conversions) that do not alter the visible aspects of the lighting housing.
3. Historic features such as decorative or distinctive light fixtures shall be retained.

If **not** located within a Historic District:

1. Upgrades or improvements to exterior lighting, including bulbs, fixtures, and/or housings (e.g., incandescent to LED conversions) that **are not** located in a historic district.

Building Shell Measures

1. Insulation of roofs, crawl spaces, ceilings, attics, floors and around pipes/ducts as long as these measures do not induce, retain, or introduce moisture into the building.
2. Blown in wall insulation where no decorative plaster is damaged.
3. Sealing air leaks using weather stripping, door sweeps, and caulk and sealing major air leaks associated with bypasses, ducts, air conditioning units, etc.
4. Thermal insulation installation in walls, floors and ceilings. Duct sealing, insulation, repair or replacement in unoccupied areas.
5. Attic insulation with proper ventilation; if under an effective R8 - add additional R-19 up to R-38.
6. Band joist insulation - R-11 to R19 as applicable.
7. Ventilating crawl spaces.
8. Repair, refinishing and/or replacement in kind of historic flooring and floor coverings to include vinyl, tile and/or carpet.
9. Repair and replacement in kind of only those portions of historic wood flooring that are extensively deteriorated.

HVAC, Domestic Hot Water, and Control Measures

1. Clean, tune, repair or replace heating systems, including furnaces, oilers, heat pumps, vented space heaters, and wood stoves.
2. Clean, tune repair or replace cooling systems, including central air conditioners, window air conditioners, heat pumps, and evaporative coolers.
3. Install insulation on ducts and heating pipes (when historic features such as decorative cast iron radiators or other distinctive features are retained).
4. Install or replace existing building controls systems including HVAC control systems, conversion of building-wide pneumatic controls with digital controls, programmable thermostats, outdoor reset controls, dampers, UL listed energy management systems, building automation systems, and other individual sensors like smoke detectors and carbon monoxide detectors (wired or non-wired).
5. Replacement of existing HVAC equipment including pumps, motors, boilers, chillers, cooling towers, air handling units, package units, condensers, compressors, heat exchangers that do not require a change to existing ducting, plumbing, electrical, controls or a new location, or if ducting, plumbing, electrical and controls are on the rear of the structure or not visible from any public right of way.
6. Install, repair, or replace existing controls and adjustable speed drives and/or variable speed motors such as fans on air handling units, cooling tower fans, electric motors and motor controls, and other HVAC, pump, motor, or domestic hot water system controls.
7. Plumbing work, including installation, repair, or replacement of water heaters (when historic features such as hand pumps or plumbing fixtures are retained).

8. Conduct other efficiency improvements on heating and cooling systems, including replacing standing pilot lights with electronic ignition devices and installing vent dampers.
9. Modify duct and pipe systems so heating and cooling systems operate efficiently and effectively, including adding return ducts, replace diffusers and registers, replace air filters, install thermostatic radiator controls on steam and hot water heating systems.
10. Install insulation on water heater tanks and water heating pipes.
11. Install waste heat recovery devices, including 'desuperheater' water heaters, condensing heat exchangers, heat pump and water heating heat recovery systems, and other energy recovery equipment.

Water Conservation Measures

1. Install, repair, or replace low flow faucets, toilets, shower heads, urinals, and other water use systems.
2. Install, repair, or replace water distribution device controls.
3. Replacement of kitchen and bathroom appliances, fixtures, fittings and accessories.

Electric Base Load & Lighting Measures

1. Electrical work, including improving lamp efficiency and converting incandescent lighting to fluorescent or other higher efficiency lighting.
2. Repair or replace electrical wiring.
3. Add reflectors, LED exist signs, efficient HID fixtures, and occupancy (motion) sensors.
4. Replace refrigerators and other appliances (upgrade to Energy Star appliances).
5. Replacement of kitchen and bathroom appliances, fixtures, fittings and accessories.
6. Incorporate other lighting technologies such as dimmable ballasts, day lighting controls, and occupant controlled dimming.
7. Incorporate other lighting technologies such as dimmable ballasts, day lighting controls, and occupant controlled dimming.
8. Compact fluorescent light bulbs.
9. Replacement of existing with energy efficient light fixtures, including ballasts when historic features such as decorative or distinctive light fixtures are retained.
10. Replace LED light fixtures and exit signs.

Health and Safety Measures

1. Installing fire, smoke or carbon dioxide detectors and security alarms provided any potential affects are reversible.
2. New installation of non-hard wired devices including photo-controls, occupancy sensors, carbon dioxide, thermostats, humidity, light meters and other building control sensors, provided the work conforms to applicable state and local permitting requirements.
3. Repair or replace vent systems on fossil-fuel-fired heating systems and water heaters to ensure that combustion gasses draft safely to outside.
4. Install mechanical ventilation, in a manner not visible from the public right of way, to ensure adequate indoor air quality if house is air-sealed to building tightness limit.
5. Installation of hardware to include: dead bolts, door hinges, latches and locks, window latches, locks and hinges and door peep holes. New hardware shall be of contemporary design and made of the same material as existing hardware.

Infrastructure and Site Public Improvement Work

1. In-kind repair or replacement of site improvements, including, but not limited to fences, retaining walls, streetlights and landscaping.
2. Upgrades or improvements to streetlights bulbs, fixtures, and/or housings (e.g., sodium vapor to LED conversions) that are not located in an **Historic District**.

3. Installation of above-ground waste heat recovery loops that do not connect historic properties **and** that are not located in a historic district.
4. Excavation in previously disturbed ground to a depth not to exceed 6-inches shallower than the maximum depth of the previous disturbance, to install heat recovery pipe loops or other energy efficiency measures.
5. In the event of unanticipated archeological discoveries all work shall stop and the Office of History and Archaeology shall be contacted.

Archeological Investigations

Archeological investigations will not be required for ground disturbing activities when excavation is non-intrusive, including:

a. Excavation to install exterior, below-grade insulation, to a depth not greater than 6-inches below the bottom of the footing or foundation, and limited to the area within 6-feet of the perimeter of the building;
b. Excavation activities described in Section, "Infrastructure and Site Public Improvement Work."

II. CONDITIONS OF THE MOU

Discoveries and Unforeseen Effects

Should any of the participating parties or sub-grantees, in the process of carrying out any action listed above, find that such action has the potential to affect a previously unknown property that may be eligible for the National Register of Historic Properties or that the action will affect a known Historic Property in an unanticipated manner shall cease such action and contact the Office of History and Archaeology (OHA) and develop treatment plan in conjunction with OHA.

Review

AHFC and OHA shall provide for review of the MOU biennially. Any amendments to this MOU recommended during the review shall be considered in accordance with the stipulation below.

Amendment

If any signatory to this MOU believes an amendment is necessary, that party shall immediately request all parties to consider an amendment to the MOU. No amendment to the MOU will go into effect without concurrence of all signatories.

Duration

This MOU shall become effective upon execution by the signatories to this MOU and shall remain in effect until terminated or 10 years after it becomes effective.

Principal Points of Contacts

Parties will be notified in writing of changes in points of contact:

OHA Contact:

Name:	Judy Bittner, Chief, Office of History and Archaeology
Address:	550 W. 7th Ave., Ste. 1310
	Anchorage, AK 99501-3565
Phone:	(907) 269-8715

AHFC Contact:

Name:	Bob Brean, Director, Research and Development
Address:	A4300 Boniface Parkway
	P.O. Box 101020
	Anchorage, AK 99510-1020
Phone:	(907) 330-8115

Signatures

CHIEF, OFFICE OF HISTORY AND ARCHAEOLOGY

By Judith E Bittner Date 3-14-2011

Printed Name: JUDITH E BITTNER Title: Chief, History + Archaeology

ALASKA HOUSING FINANCE CORPORATION

By Robert L. Brean Date 3/14/2011

Printed Name: Robert L. Brean Title: Director

SHPO Compliance Checklist

Job No. _____ Client Name _____

Year Built _____ Initials _____ Date _____

Dwelling Under 45 Years Old

Ground Disturbing Activities	GDA Exempt		Section 106 Review Required
No	Proceed with work		
Yes	Yes	Proceed with work	
	No		**YES**

Dwelling 45 Years Old or Older

Ground Disturbing Activities	GDA Exempt	Other Activities Are Exempt	Section 106 Review Required
No		Yes	Proceed with work
		No	**YES**
Yes	Yes	Yes	Proceed with work
		No	**YES**
	No	Yes	**YES**
		No	**YES**

Section 106 Review

Photos _____ Map _____ Scope _____

Date Sent _____

Date Received _____

SHPO Required Modifications to Scope No Yes

ALASKA STATE HISTORIC PRESERVATION OFFICE
REQUEST FOR SECTION 106 REVIEW FOR HUD AND DOE/AHFC PROJECTS

Use this form to request SHPO review of any projects involving HUD or DOE/AHFC assistance for building repair, rehabilitation, change of use, demolition, new construction, or land acquisition.

General Information

Client Name or Number:

Property Address:

Funding Source: DOE/AHFC

Project Applicant (Housing Agency):

Applicant Address:

Contact Person:

Telephone Number:

E-mail:

Project Information

What year was the building constructed?

Provide a detailed description of the proposed project:

Describe the existing conditions at the project site:

Describe the proposed ground-disturbance (installation of new utilities, connections to existing utilities, equipment staging and/or access areas, or other related activities):

ADDITIONAL INFORMATION

- *Attach a **map** of the community and identify the **project location** (arrows or circle)*
  Alaska community maps can be downloaded at:
  https://www.commerce.alaska.gov/web/dcra/PlanningLandManagement/CommunityProfileMaps.aspx
- *Attach a **photograph** of the building.*
- *Attach photographs of building features that may be altered by the project (for example, doors or windows).*

Finding of Effect

( ) *No historic properties affected [36 CFR 800.4 (d)(1)]*

( ) *No Adverse Effect [36 CFR 800.5(d)(2)]*

( ) *Adverse Effect [36 CFR 800.5(d)(2)]* *If the project results in an adverse effect, further consultation must be conducted to resolve the adverse effect.*

E-mail your request to: oha.revcomp@alaska.gov

OR

Mail your request to: *Judith Bittner, SHPO*
Office of History & Archaeology
550 W. 7th Ave., Suite 1310
Anchorage, AK 99501

We no longer accept faxed requests for review.

Please be aware that this form may only initiate consultation. For some projects, the Alaska SHPO may require additional information to complete our review, such as additional maps, photographs, construction plans, and specs. Our office may request that affected properties be evaluated for eligibility to the National Register of Historic Places following our initial review.

Weatherization Operations Manual

Section 5. Building Standards

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General Policies

The intent of the Alaska Weatherization Assistance Program is energy conservation not housing rehabilitation.

Installation of measures shall comply with the standards in this section. A written explanation must be in the client file for weatherization measures that do not meet an SIR of 1.0 per AkWarm. Measures provided for applicable health-and-safety reasons only need to be identified as such without further detail.

Additional requirements are provided throughout the Weatherization Operations Manual (**WOM**) and the grant.

Weatherization services shall be provided in a manner that minimizes risk to workers, clients, and dwellings.

Guiding Principles of the Alaska Weatherization Assistance Program

- Weatherization implements energy-efficiency measures with a Savings to Investment Ratio (SIR) of 1.0 or greater.
- Weatherization does not bring entire homes up to “code,” but the measures provided by the Program do comply with applicable codes.
- Measures provided by the Weatherization program must remain in the home. They are not to be sold, bartered, or given away for the duration of their useful life.
- Grantees are responsible for complying with manufacturer guidelines as well as state, federal, and local jurisdiction.
- All work, no matter the condition of the existing home, shall be done in a quality, professional manner.
- Weatherization only assists homes that are “substantially complete” per program guidelines.
- Weatherization does not finish new construction.
- Weatherization is not a home maintenance or rehabilitation program.
- Weatherization is not a “preventative” program; i.e., it does not replace components merely because they are old.
- Weatherization improves ventilation to enable clients to control moisture and pollutants in the home that may be exacerbated by air-sealing.
- Weatherization is not an emergency service/response program.
- Weatherization implements mandatory health-and-safety measures as well as weatherization-related health-and-safety measures that are necessary to install energy-efficiency measures, to provide a safe workplace, and/or to protect clients.

Mandatory Health-and-Safety Measures

The following guidelines must be met in any home assisted with Weatherization funding.

1. Smoke Detectors
    a. Required: replacement of units over eight years old or units that do not operate.
    b. Required: in all sleeping rooms, outside of each sleeping area in the immediate vicinity of the bedrooms, on each additional story of the dwelling, including basements but not including crawlspaces and uninhabitable attics.
2. Carbon Monoxide Detectors
    a. Required: replacement of units over three years old and/or that do not meet Program standards.
    b. Required: outside of each sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling including basements, but not including crawlspaces and uninhabitable attics.
    c. CO detectors shall be installed before any work on the dwelling commences.
3. Correction of combustion failures before leaving the home.
4. A whole house ventilation fan is required.
5. An exterior vented range hood fan over a gas combustion range is required.

After funding mandatory health-and-safety measures, all energy-efficiency measures with an SIR of 1.0 or greater and weatherization-related health-and-safety measures should be considered and implemented as the budget allows.

Grantees are to complete the assigned number of homes—serving high priority clients first as funding and logistics allow—to minimize residential energy consumption in the State. The majority of the budget for each home served should be spent on energy-savings measures to ensure successful implementation of the program.

1.0 General Requirements

The Grantee shall perform all work or ensure that its subcontractors perform all work consistent with the provisions of the grant agreement, all applicable laws, ordinances, regulations, industry standards, and other applicable authority as amended from time to time. All work shall be completed consistent with good workmanship performed by craftsmen skilled in their trade. Whenever the information provided in this WOM may not be consistent with comparable standards imposed by other law, ordinance, regulation, industry standard or other applicable authority, the provisions that are more restrictive or that impose higher standards or requirements shall govern. For DOE funding, the DOE State Plan takes precedence over the WOM.

1.1 Subcontractors

The following requirements apply to subcontractors (Service Dealers) who work in units that are to be weatherized.

1.1.1 Subcontractor License and Insurance Requirement

Subcontractors must comply with the requirements of the grant.

1.1.2 Competency

It is important that installers and technicians be qualified to do the work required under this program. The Grantee should be aware that there are many trades for which the State of Alaska does not require workers to have a professional license. Therefore, the competence of the installer or repair technician must be determined by other means such as the general reputation of the business, competency certifications provided by equipment manufacturers, or by technical schools with Heating Ventilation and Air Conditioning (HVAC) or other programs.

1.2 Warranties

The Grantee and all subcontractors shall provide warranties against any defect in the material, manufacture, design, or installation of all materials, equipment, or products that is found within one (1) year from the date of completion of installation. The defects found within the warranty period shall be remedied without charge to the client and within a reasonable period of time.

1.3 Code Compliance

All materials, equipment, or products installed will comply with applicable federal, state, and local laws and code regulations. The Grantee is responsible for complying with applicable codes for its service area(s).

1.4 Materials

All materials used shall meet the specifications found in WOM Section 8, *Materials Standards* (i.e., *10 CFR 440 Appendix A—Standards for Weatherization Materials*).

1.4.1 Alternate Materials

The Grantee shall get written approval to use alternate materials from the AHFC Program Manager.

1.5 Manufacturers' Requirements

The Grantee and subcontractors shall conform to all manufacturers' requirements regarding installation, use, and maintenance of all materials, equipment, or products installed or supplied through the Weatherization program. Whenever the information provided in this WOM may not be consistent with a manufacturer's requirements, the Grantee shall follow the manufacturer's requirements. If the manufacturer's requirements are less restrictive than the WOM, the Grantee shall document the manufacturer's requirements in the client file.

1.6 Certificate of Insulation—All Forms of Insulation

The certificate of insulation shall contain the following information and shall be completed in ink and signed by the installer:

a. Address of residence.
b. Date of installation.
c. Name, address, and phone number of installer.
d. Amount (number and size of bags).
e. Final R-Value of insulation.
f. Area of space in square feet that was insulated.

1.6.1 Posting of Certificate

Upon completion of the installation of the insulation, the completed certificate shall be posted in the interior of the area insulated in a location nearby, and visible from, the access to the area. A copy of the certificate also shall be kept in the client file of the Grantee.

1.6.2 Posting Empty Bag/Wrapper—Loose Fill

Upon completion of the installation of the insulation, the Grantee or subcontractor shall post near the Certificate of Insulation an empty bag or wrapper from the insulating material that was installed.

1.7 Savings to Investment Ratio (SIR)

The Grantee shall install those individual conservation measures that have a Savings to Investment Ratio (SIR) of 1.0 or greater, prioritizing them in the order of greatest savings to investment. In certain situations, due to variables, the Grantee may not be able to complete the highest SIR measure(s).

1.8 Level of Finish Required

The Grantee shall complete all work in a professional manner. Work will be finished to the minimum standards stated below:

a. **Wood Exposed to Exterior**—All wood installed by Weatherization exposed to the exterior will comply with one of the following:
   1. Treated for exterior use.
   2. Primed.
   3. Rot-resistant species (for example, cedar).

b. **Window Install**—Window replacement will include:
   1. Trim on both inside and outside.
   2. Reinstallation of curtain rods.
   3. A pre-work agreement with the owner on how existing shades, exterior shutters, or other specialty items will be handled.
   4. Window replacements on mobile homes that do not have overhangs must have angle flashing installed above the window and extending 6" horizontally beyond the window opening. This is for bulk water from the roof. Flashing can be installed anywhere above the window; i.e., it does not have to be right at the top of the window.

c. **Door Install**—Door replacement will include:
   1. Trim on both sides.
   2. New door knob and deadbolt (keyed alike) if applicable (unless agreed to with the owner prior to work start).
   3. If multiple doors are replaced, locksets and deadbolts keyed alike.
   4. If house-to-garage door replaced, the door must have self-closing hinges or a door closer installed and operating.
   5. Door replacements on mobile homes that do not have overhangs must have angle flashing installed above the door and extending 6" horizontally beyond the door opening. This is for bulk water from the roof. Flashing can be installed anywhere above the door; i.e., it does not have to be right at the top of the door.
   6. If a glass lite is installed in a new door, the glass shall be no larger than 12" x 12" or 144 sq. in.

d. **Ductwork in Living Space**—New ductwork installed:
   1. Shall be installed so ducts fit into framing cavity when possible.
   2. Shall be designed for minimal chase work.
   3. Ducting joints shall be sealed (metal tape or mastic rated for use).

e. **Fibrous Insulation**—Fibrous weatherization materials INSTALLED in living spaces (i.e., cellulose, fiberglass, etc.):
   1. Shall be shielded from both indoor and outdoor environments. Shielding protects both the weatherization materials, and more importantly, the occupants from exposure to the insulation fibers.

f. **Accidents or Inadvertent Damage to Home**—Damage to a home that occurs during weatherization work will be repaired to the finish state prior to damage. This would include new materials and paint if applicable. If a broken item is no longer available, a similar quality item will be installed.

g. **Hollow Core Doors**—When installing a grill or under-cutting a hollow core door, solid backing (wood) must be installed if a cut exposes the hollow part of the door.

2.0 Health and Safety

During the course of performing energy assessments and/or weatherization work, the work in progress at each dwelling must be monitored to identify potential or existing hazards (e.g., asbestos, mold, radon, structural instability, CO, other IAQ issues, uncontained sewage, etc.) to either weatherization workers or dwelling occupants. All work must be completed consistent with the provisions of the grant, all applicable laws, ordinances, regulations, industry standards, and other applicable authority as amended from time to time. Strict compliance with OSHA or other safety standards is mandatory. Whenever the information provided in Section 5, *Building Standards* may be inconsistent with comparable standards imposed by other law, ordinance, regulation, industry standard or other applicable authority, the provisions that are more restrictive or that impose higher standards or requirements shall govern. For DOE funding, the DOE Health and Safety Plan and State Plan take precedence over the WOM. At no point, should the Grantee compromise employee or client health in pursuit of energy savings.

2.1 Worker Safety

Each worker is responsible for working in a safe manner so as to not endanger either himself or others. Worksite supervisors are responsible for ensuring the safety of all workers and clients on the worksite.

All weatherization workers, whether employees or subcontractors, are required to abide by the State of Alaska Occupational Safety and Health Standards, Volumes I & II,(8 AAC 05) published by and available through the Alaska Department of Labor, Division of Labor Standards and Safety.

The Alaska Housing Finance Corporation Weatherization Assistance Program allows a waiver for non-performance of assessments, installations, or any portion of these functions, if such action will expose workers to conditions regarded as unsafe or unhealthy as determined by OSHA Construction Industry Standards.

2.2 Housekeeping Activities

All scrap lumber, waste material and debris will be removed from the immediate area as work progresses. An area outside the home should be designated for storing such material. The material should be removed from the premises at the end of each work day or when the job is completed.

Equipment (e.g., blower hose, power tools, extension cords, etc.) will be removed from the immediate work area and properly stored when no longer required or when each phase of the weatherization process is completed.

2.3 Client Safety

Grantees and their representatives are required to take all reasonable precautions against performing work on homes that will subject clients to health or safety risks. During the initial assessment, the assessor will make an evaluation of conditions existing within the home. Clients shall be educated regarding work areas, barricades, no-entry areas, and work practices (e.g., lead safe work). In cases where a person's health is fragile and/or crew work activities would constitute a health or safety hazard, special arrangements shall be required to ensure occupants are protected. Document and have the client sign any measure recommended for health-and-safety refused by the client.

2.4 Health-and-Safety Limitations

State and federal guidelines limit expending WX funds on health-and-safety issues.

a. The program cannot address health-and-safety items that exceed the scope needed to make installation of WX measures possible.
b. In some cases, it may be cost-prohibitive to provide an allowable health-and-safety item.
c. The program is not intended to provide *general* home rehab, repair, or health-and-safety improvements.
d. The program does not remediate mold, lead, asbestos, or radon. However, some Weatherization measures may impact these hazards and are addressed later in this section of the WOM.

2.5 Walk-Away Policy

If conditions exist where repairs are required that are beyond the scope of the program, health-and-safety conditions are such that weatherization workers or materials would be jeopardized, or weatherization activities may aggravate an unsafe situation or the durability of the home, the Grantee may choose not to weatherize that home until such conditions are remedied. If that choice is made, a written notification to the client and/or homeowner will be issued, clearly explaining the conditions and that work may commence when the conditions are remedied. Such notice may specify a timeframe for resolving the condition that is reasonable for the client and the program. See also WOM Section 1, *Walk-Away Policy*.

3.0 Home Energy Assessments

All homes receiving weatherization services shall receive an on-site assessment.

3.1 Scope of Assessment

The Grantee shall evaluate the dwelling for the following:

a. Cost-effective energy-efficiency improvements.
b. Comfort issues.
c. Health-and-safety issues.
d. Building issues that may negatively affect or prohibit installation of energy-efficiency measures.

3.2 Assessment Requirements

3.2.1 In-Home Safety

The Energy Assessor should be aware of unsafe conditions encountered in the course of the energy assessment. Specific precautions will be exercised to protect both occupants and crew workers. Complications that may arise from existing unsafe conditions will be documented before any work begins on a home. If conditions exist that could pose a hazard to clients or crews, the assessor may decide to delay weatherization work until those conditions are remedied.

Potentially unsafe conditions may include but not be limited to:

Carbon Monoxide/Indoor Air Quality: Workers shall not be exposed to carbon monoxide (CO) levels greater than 70 PPM ambient. Clients shall be notified of the potential dangers of CO exposure.

Electrical: The condition of wiring may be affected by weatherization activities. Precautions will be taken when working around wiring throughout the home. When necessary, specific instructions will be documented.

The assessor shall address problems that will interact with weatherization (i.e., shielding combustible materials from heat-producing sources; minor repair of connections; fuse/circuit breaker replacement, etc.) or are obvious hazards to workers or clients. The Grantee shall notify the client/owner of other issues that are beyond the scope of the Weatherization program (i.e., replacement of unsafe service panel; extensive replacement of unsafe wiring, etc.).

Structural: Weatherization materials (i.e., cellulose, fiberglass, etc.) will be shielded from both indoor and the outdoor environments. Shielding protects both the weatherization materials, and more importantly, the occupants from exposure to the insulation fibers.

Structural repair measures include replacement of a damaged or missing section of the building envelope (i.e., drywall, plywood or other sheathing material). Another measure may include repairing damaged or leaking components to protect insulation.

The Grantee shall notify the client/owner of other issues that are beyond the scope of the Weatherization program (i.e., extensive roof repair, major portions of the interior surface area requiring drywall, and major portions of the exterior surface area requiring sheathing material, etc.).

3.2.2 All assessments will include:

a. Diagnostic testing (blower door testing). See 4.0 *Diagnostic Testing.*
b. Combustion safety diagnostic testing when combustion appliances are present. See example in WOM Section 6, *Maximum Depressurization Data Sheet.* For compliance with BPI 1200, use WOM Section 6, *Combustion Safety Test Form*.
c. Mold Disclosure report. See example in WOM Section 7.
d. Health-and-safety notification.
e. Visual inspection, which shall include inspecting all accessible areas as follows:
    1. Attics.
    2. Crawlspaces.
    3. Building envelope.
    4. Roofs.
    5. Insulation levels.
    6. Heating systems.
    7. Ventilation systems.
    8. Interior surfaces.
    9. Appliances.
    10. Home energy bills.
    11. Plumbing and electrical (only where insulation may be installed).
    12. Smoke alarms and CO detectors.

3.3 Review of Assessment with Client

The Grantee shall review the findings of the assessment and anticipated scope of work with the occupants of the dwelling. Documentation of the assessment findings and anticipated scope of work shall be retained in the client file.

3.4 Client Authorization

The Grantee shall obtain a signature from the client (occupant of the dwelling unit) and the landlord (if it is a rental dwelling), authorizing installation of the measures to be performed on the eligible dwelling prior to work commencing. A copy of the signed

authorization shall be retained in the client file. Any changes after work has started must be documented and pre-approved by the client before continuing with work.

3.5 Assessment Documentation

The Grantee shall document the findings of all assessments in the client file. These findings shall describe the condition of the home at the time of the assessment, the work performed, and the final condition of the home.

3.5.1 Photographic Record

The Grantee shall record the condition of the home by taking a minimum of two photographs of the home's exterior elevation that capture the essence of the dwelling unit. These photographs shall be dated and retained in the client file.

3.6 AkWarm

The Grantee shall evaluate 100% of homes using an AkWarm computerized energy assessment. A copy of the improvement options report, pre-weatherization rating ("As-Is AkWarm"), and post-weatherization rating ("Post AkWarm") must be retained in the client file.

The Grantee shall install those individual conservation measures that have a Savings to Investment Ratio (SIR) of 1.0 or greater.

3.6.1 AkWarm Updates and Training

The Grantee is required to maintain the following areas and data related to AkWarm:

a. Update new versions of software as required.
b. All assessors shall be trained to perform a computerized energy assessment.

3.6.2 Calculation of Installed Measure Cost

The Grantee shall calculate installed measure costs. Measure costs shall be calculated using one of the following methods:

1. Installed measure costs are equal to verifiable subcontractor costs.
2. Local crew-based agencies may calculate and document their construction costs including materials and labor costs.

4.0 Diagnostic Testing

The Grantee shall perform diagnostic testing on all dwelling units prior to weatherization measures being installed and upon completion of each project.

Required Tests:

- Blower Door
- Zonal Pressure
- Duct Pressure Pan (Forced Air System)
- Dominant Duct (Forced Air System)
- Room to Room Pressure Differential
- CAZ Compliance
- Combustion Safety
- Gas Range CO
- Combustion Efficiency
- Whole House Fan Flow
- Gas Line Test

4.1 Diagnostic Testing Equipment

The Grantee shall:

a. Use a digital manometer to perform all pressure diagnostic testing measurements.
b. Maintain blower door(s) and calibrate digital manometer(s) as recommended by the manufacturer(s).

4.2 Blower Door Test

The Grantee shall perform a single-point depressurized blower door test before any weatherization measures are installed and at the conclusion of any project. A second (different house configuration) blower door test is required if the home has an attached conditioned garage and/or conditioned crawlspace with access from the living area (See 4.2.2 only if using ASHRAE 62.2 Option 1.). Results of pre- and post-weatherization blower door testing must be documented in the client file. If unable to complete pre- or post- weatherization blower door tests, provide documentation in the client file to justify.

Exception(s):

a. A pressurized single-point blower door test is acceptable to avoid the possibility of pulling known pollutants into the building during the test procedure (e.g., vermiculite in attic). If it is required to complete a positive test, then the post-weatherization test also will be a positive pressure test.

4.2.1 Building Set-Up to Test Thermal Boundary (AkWarm)

The goal of the set-up is to test the **airtightness** of the dwelling. The Grantee shall include conditioned crawlspaces, lofts, and attached conditioned garages. **DO NOT** temporarily seal intentional openings in the building envelope (such as dryer exhaust, ventilation system intake or exhaust, or a chimney for a furnace or water heater). Below is the building set-up:

- Close all exterior windows.
- Close all exterior doors. (Doors from the house to unheated arctic entries are considered exterior and shall be closed for the test.)
- Open all doors between house and conditioned garage.
- Close exterior garage pedestrian and vehicle doors.
- Close exterior crawlspace hatches.
- Open all interior doors to rooms and basements that are conditioned, including an access hatch to a conditioned crawlspace and doors to conditioned utility/heater rooms. The objective is to treat the entire building as one conditioned space and to subject all of the leaks in the building to the same pressure difference.
- Turn off all combustion appliances, so they will not turn on during the test. (***Note:*** *If combustion appliances turn on during a depressurization test, it is possible for flames to be sucked out of the combustion air inlet (flame rollout). This is a fire hazard and possibly can result in high CO levels.*)
- If there are attached spaces (e.g., townhouses) that could contain a vented combustion appliance, either adjust those appliances to prevent them from turning on during the test or be sure that the attached spaces are not depressurized or pressurized when the blower door is operating.
- Be sure that fires in fireplaces and woodstoves are completely out. Take precautions to prevent ashes from being sucked into the building during the test.
- Turn off all exhaust fans, vented dryers, air conditioners, ventilation system fans, and air handler fans.

4.2.2 Building Set-Up to Test Living Space (For Ventilation ASHRAE 62.2 Option 1)

The goal of the set-up is to test the **airtightness of the living space** of the dwelling. This test is required only if the home has an attached conditioned garage and/or conditioned crawlspace with access from the living area. **DO NOT** include conditioned crawlspaces, lofts, and attached conditioned garages. **DO NOT** temporarily seal intentional openings in the building envelope (such as dryer exhaust; ventilation system intake or exhaust; or a chimney for a furnace or water heater). Below is the building set-up:

- Close all exterior windows.
- Close all exterior doors (Doors from the home to unheated arctic entries are considered exterior and shall be closed for the test.)
- Close all doors between house and conditioned garage.

- Close exterior garage pedestrian and vehicle doors.
- Close exterior crawlspace hatches.
- Open all interior doors to rooms and basements that are conditioned, including doors to conditioned utility/heater rooms.
- Close access hatch to a conditioned crawlspace.
- Turn off all combustion appliances, so they will not turn on during the test. (***Note:*** *If combustion appliances turn on during a depressurization test, it is possible for flames to be sucked out of the combustion air inlet (flame rollout). This is a fire hazard and possibly can result in high CO levels.*)
- If there are attached spaces (e.g., townhouses) that could contain a vented combustion appliance, either adjust those appliances to prevent them from turning on during the test or be sure that the attached spaces are not depressurized or pressurized when the blower door is operating.
- Be sure that fires in fireplaces and woodstoves are completely out. Take precautions to prevent ashes from being sucked into the building during the test.
- Turn off all exhaust fans, vented dryers, air conditioners, ventilation system fans, and air handler fans.

4.2.3 Blower Door Set-Up and Test Procedure

The Grantee shall reference the blower door Owner's Manual for guidance on blower door set-up, manometer set-up, and single-point test procedure. Buildings will be set-up as detailed above—not per the Owner's Manual. The blower door test pressure will depressurize (or pressurize depending on the situation) the home by 50 Pascals from the baseline pressure.

4.2.4 Baseline Data

The Grantee shall document baseline information, such as wind speed, temperature, and baseline pressure, using a diagnostic test report.

4.2.5 Pre and Post Test Home Set-Up

Building configuration including attic vents, garage exterior doors, crawlspace exterior hatches, etc. should be configured the same for both the pre and post tests. To acquire reliable numbers, consistent building set-up is required.

4.3 Blower Door Tests in Multi-Unit Buildings

4.3.1 For 2- to 24-unit buildings, test per 4.3.2 to 4.3.3.

4.3.2 Single-unit or Compartmentalization Test

Perform a pre and post single point CFM50 blower door test of individual unit. When possible, open adjacent units to the outside. Test will calculate air leakage to outside

and inter-unit leakage together. A minimum of 10% of each set of units with similar floorplans will be tested.

4.3.3 Whole Building Test (when feasible)

In multi-level apartment and condominium buildings where the entire building is to be weatherized and where there is a common entry and common hallway that make it possible to complete a "whole-building" blower door test, open all units to common hallways and entries to create one test zone. If the crawlspace is conditioned, it should be opened to the building during the test.

a. If the building is small enough or tight enough that it can be tested to -50 pa with one blower door (CFM50 < approximately 5,000), complete a single-point pre and post test at -50 pa.
b. Where -50 pa cannot be reached with a single blower door, use multiple blower doors to complete a multi-point depressurization test. Measure pre and post test baselines to calculate baseline corrections. Evaluate the test data with analysis software as recommended by the blower door manufacturer

4.3.4 For buildings with 25 or more units or 5 stories and above, consult with the AHFC Program Manager before proceeding to develop the testing protocol for air leakage.

4.4 Zonal Pressure Testing

The Grantee shall perform zonal pressure testing in all zones (attics, crawlspaces, garages and other unconditioned spaces). The test shall be performed prior to the installation of weatherization measures that alter the shell of the dwelling. Zonal pressures shall be recorded with reference to (WRT) the living space of the home. Pre and post zonal pressure measurements shall be documented in the client file.

4.4.1 Duct System Testing

The Grantee shall perform pressure pan (or pressure block) testing of all forced air duct systems. The standard for duct system for tightness is 1 pa or less at each supply register. The standard for return plenums is 5 pa or less. See 15.5 *Duct Sealing*. Post testing of ducts in enclosed cavities, such as wall bays, dropped ceilings, floor joists, mobile home bellies, etc. shall be performed prior to insulating those cavities. Pre and post duct pressure pan measurements shall be recorded in the client file.

Exception(s):

a. Duct systems that are entirely within the heated building envelope and not connected to any exterior wall, attic, or ceiling building component, or buffered zone, are not required to be tested.
b. The Grantee may use a duct tester to perform duct tightness testing. The standard for tightness is 100 CFM leakage to outside at 25 pa.

c. Duct tightness testing and standards shall take into consideration the home plumbing system and potential freeze-ups. If duct sealing is not completed and numbers are above the standard, document the reason for not sealing in the client file.

4.5 Dominant Duct Leak Testing

The Grantee shall perform dominant duct leakage testing of all homes with ducted forced air heating distribution systems. Pre and post dominant duct leakage measurements shall be recorded in the client file.

4.6 Room-to-Room Pressure Differential Testing

The Grantee shall test and record the pressure differential between rooms and the main body of the dwelling. Pressure differentials of more than 5 pa must be corrected. Pre and post pressure differential measurements shall be recorded in the client file.

5.0 Combustion Appliance Zone Depressurization

The Grantee shall perform a worst-case depressurization test in each Combustion Appliance Zone (CAZ). When CAZ depressurization limits are exceeded under worst-case conditions, the depressurization shall be brought within acceptable limits as detailed in Table 1. For DOE, follow BPI 1200.

Table 1: CAZ Depressurization Limits[1]

Venting Condition	Limit (Pascals)
Natural draft water heater (including outside chimneys) or fireplace	-3
Wood stoves and fireplace inserts, including airtight models with outside combustion air	-10
Individual natural draft boiler or furnace	-5
Toyo stove/Monitor	-20
Power vented or induced draft boiler or furnace	-10
Chimney-top draft inducer; High static pressure flame retention head oil burner; Direct vented appliances; Sealed combustion appliances	-20

Exception(s):

a. If reasonable efforts cannot meet or reach the CAZ Depressurization Limits standard, the Grantee shall document in the client file the actions taken and the education provided to the client. (***Note:*** *The worst-case test shall be completed*

[1] Building Performance Institute Standard

with the garage-to-house pedestrian door closed if this is the "normal" operation of house. If the occupants have the door propped open, then test with the pedestrian door open; but, if there are self-closing hinges, then test with the door closed. The same applies for a sealed utility room with a normally closed door.)

A *Maximum Depressurization Data Sheet* (See WOM Section 6.) shall be filled out for each appliance and be present in the client file.

5.0.1 Combustion Safety Testing

Combustion Appliances Defined: any liquid, gas, and solid fuel burning appliances including water heaters, wood stoves, ranges, ovens or stove tops, furnaces, boilers, space heaters, fireplaces, fireplace inserts, and gas logs.

5.0.2 Post Weatherization Combustion Safety Testing

The Grantee shall perform a Combustion Safety Test on every combustion appliance at the conclusion of the Weatherization project.

5.1 Heat Rise

The Grantee shall test all forced air heating systems for heat rise. Follow manufacturers' specifications.

5.2 Draft and Spillage Tests

The Grantee shall perform spillage and draft tests for all natural draft space heating systems and water heaters. Draft and spillage shall first be tested under worst-case conditions and then repeated for natural conditions if the appliance fails under worst-case.

5.2.1 Single Chimney with Multiple Appliances

When a chimney is shared by multiple appliances, the appliance with the smallest BTU input rating shall be tested first, and remaining appliances shall be tested in order of increasing input rate.

5.2.2 Multiple Fuel Sources Vented into a Single Chimney

Multiple fuel sources vented into a single chimney are cause for deferral of services until the situation is corrected unless it is allowed by the manufacturer. Documentation must be in the client file.

5.2.3 Draft Testing

The Grantee shall measure vent draft pressure at steady-state operating conditions of all natural draft heating and hot water appliances. Draft test location should be

approximately 1-2 feet downstream of the appliance draft diverter. After the test, the test hole must be sealed with a metal plug or screw that fills and seals the hole. Appliances shall draft at or above (i.e., have more draft) the minimum acceptable draft level detailed in Table 2.

If the draft test fails, the Grantee shall make appropriate repairs. If the owner refuses suggested work to remedy the failure, the Grantee shall document on a health-and-safety notice and have the owner sign.

Table 2: Minimum Acceptable Draft Test Action Levels[2]

Outside Temperature (degree F)	Draft Pressure Standard (Pa)	Water Column
<10	-2.5	1" = 249 Pascals
10-90	(Outside temp / 40) – 2.75 *	
>90	-0.5	

* Calculation is as follows: Divide the outside temp by 40; then, subtract 2.75 from this value. The result is the minimum acceptable draft.

5.2.4 Spillage

The Grantee shall test for spillage on all atmospheric draft appliances. The Grantee shall measure and record the amount of time it takes for spillage to stop and draft to be established. Any appliance that continues to spill flue gases beyond one minute fails spillage test. If the owner refuses suggested work to remedy a failure, the Grantee shall document on a health-and-safety notice and have owner sign. The Grantee shall make appropriate repairs.

Induced draft heating systems shall be checked for spillage at the base of the chimney liner or flue. If a chimney is shared between an induced draft heating system and a natural draft water heater, spillage shall be checked at the water heater draft diverter.

5.3 Carbon Monoxide Tests

The Grantee shall perform a CO test on ambient air and all combustion appliances. The Grantee shall measure CO in the undiluted flue gasses in the flue of the appliance, using a digital gauge that measures in parts per million (PPM). For all combustion appliances, CO shall be measured at steady-state operating conditions. CO levels must be recorded and appropriate actions taken, as detailed in Table 3 in 5.4.

[2] Building Performance Institute Standard

5.4 CO Measurement for Power-Vented, Direct-Vented, or Sealed Combustion Units

The Grantee shall not drill holes in flues for power-vented, direct-vented, or sealed combustion units. CO shall be measured at the exterior outlet of the flue.

Table 3: Carbon Monoxide Test Action Levels For Combustion Appliances[3]

CO Test Result*	Retrofit Action
0 – 99 PPM	Proceed with work; if gas and above 25 PPM, recommend cleaning of appliance burner
100 – 400 PPM	Considered unsafe and the problem needs correcting. The unit may be operated minimally if no spillage of flue gas is detected.
More than 400 PPM	Conditions are considered unsafe. The appliance must be disabled and not run—even if no CO is detected in the ambient space—until the condition is corrected.

* CO measurements for undiluted flue gases.

Exception(s):

a. Direct-vent on-demand water heaters (e.g., Toyo, Monitor, etc.) are exempt from the Retrofit Action for the 0-99 PPM and 100-400 PPM test levels in Table 3. The Retrofit Action for the "More than 400 PPM" test level is required.

5.4.1 Range Tops and Gas Ovens

For DOE, follow BPI 1200. For state funds, use the protocols below.

Range Top Test Protocol

a. Turn on and visually inspect all burners.

Level I Action—If burners do not ignite properly or do not burn cleanly, a clean-and-tune of the appliance shall be recommended.

Oven Test Protocol

a. Remove any items/foil in or on oven.
b. Make sure self-cleaning features are not activated.
c. Preheat oven to 350 degrees.
d. Turn to 400 degrees.

[3] Building Performance Institute Standard

e. Test oven for CO in the flue, before dilution air.

f. Continually monitor ambient CO levels during test.

Level I Action—100 PPM to 400 PPM as measured; educate the client and issue a health-and-safety notice.

Level II Action—If greater than 400 PPM, the problem needs to be corrected before sign-off of the completed job. Notify the owner and occupant in writing.

a. Typically, the Grantee will arrange for a qualified appliance technician to repair the unit. When the cost for a technician to repair the unit at the home is prohibitive, the Grantee may replace the cookstove after meeting the following conditions:
   - The Grantee has verified the cookstove is jetted correctly for the type of fuel.
   - The Grantee has tested the unit 2 times using different Monoxers to verify the test was performed correctly.
   - The test results exceed 400 pm after 5 min or steady state.
   - The client/owner certifies accepting replacement with a similar unit. (The existing unit most likely will not be available.)

b. However, the Grantee shall not replace a burner or an oven that does not work.

5.4.2 Ambient Carbon Monoxide

The Grantee shall monitor ambient CO levels upon entering the combustion appliance zone and during the test period for all appliances. If ambient levels exceed 70 PPM at any time, turn off the appliance immediately and make appropriate repairs. The maximum allowable ambient CO level in a dwelling where weatherization work has been completed is 10 PPM. Take action if over 10 PPM.

5.4.3 Gas Leak Test

The Grantee shall test accessible gas lines for leaks with a gas detector of the appliances below. Verify with bubble soap solution.

a. Water heater

b. Heating system

c. Gas dryer

d. Gas cookstove (Gas cookstove does not need to be moved to access gas line unless gas leaks are suspected.)

Provide repair of fuel leaks. If major gas leaks are encountered, ventilate the area, advise client to vacate the premises, and immediately contact the local utility (if applicable).

5.5 Documentation

The Grantee shall document in the client file repairs and the actions taken to correct all combustion safety failures.

5.6 Un-Vented Fuel Burning Space-Heating Appliances

The Grantee shall not proceed with weatherization of dwellings that have existing un-vented fuel burning space-heating appliances until they are removed and disposed of. The Grantee shall notify the owners and the occupants of any hazards that exist with un-vented space heaters and of the program requirements that un-vented space heaters be removed before weatherization services can be delivered.

6.0 Building Envelope Air-Sealing

The Grantee shall perform air-sealing where it is determined by a weatherization assessment to be effective based on one of the following considerations: health, safety, building durability, or cost-effectiveness.

6.0.1 Air-Sealing Locations

Air-seal the building envelope including the duct system, at the pressure boundary, and align it with the thermal boundary. This includes house-to-garage penetrations.

6.0.2 Cost Effective Air-Sealing

Priority air-sealing is an allowable expense and shall include air-sealing of all large holes, obvious bypasses, chase ways, and gaps that exist between the unconditioned areas and the conditioned areas. Priority areas to address include:

- Ceiling/Attic—top plates, wire penetrations, plumbing stacks, dropped kitchen or similar soffits, chimneys, light boxes (Preferred: air-sealing completed from attic when feasible, otherwise from living space).
- Recessed lights into unconditioned space.
- Purlins and ridgepole intersection to wall AND ceiling.
- Walls—holes or damage to wall.
- Rim joists.
- Cantilevered floors.
- Ceiling and wall connection of double-wide mobile homes.
- Addition connection to main body of mobile home.
- Common walls between dwelling units in multi-families.
- Garage-to-house separation.

- Blower door guided air-sealing.
- Weather-stripping of doors and windows

6.0.3 Use of Pressure Diagnostics and Blower Door

The blower door shall be used to assist in determining appropriate air-sealing measures.

6.1 Preferred Installation Method

The preferred method for installing air-sealing materials is from the attic side—not living space side—of ceilings and attics, from the inside surface of walls, and from the underside of floors.

6.1.1 Dirt and Debris Removal

All loose dirt and debris or other materials that might prevent the adherence of the air-sealing materials to the surface shall be removed prior to installation.

6.1.2 Depth of Sealant

Sealant shall be installed following the manufacturer's recommendations.

6.1.3 Filler Materials

Filler materials that will adequately support the sealant, such as polyurethane foam, backer rod, or other suitable materials will be installed in cracks deeper than 1/2” to a depth of 3/8” below adjacent surfaces to support the sealant when necessary.

6.2 Sealing Bypasses Around Chimneys, Flues and Stovepipes

Bypasses around chimneys, flues, and stovepipes shall be sealed using metal flashing. Combustible materials must be a minimum of 3” from the chimney (Refer to 7.4.3.). Closer clearances are acceptable if allowed by the manufacturer. The distance between the flashing and chimney cannot exceed 1/16”. The flashing must be no less than 26 gauge galvanized steel. (Photo documentation must be in the client file.)

6.2.1 Fireplaces with Broken or Missing Dampers

Installation of chimney top dampers or a removable draft stopping device is allowable. Installation of the device must be clearly marked.

6.3 Sealing Non-IC-rated Fixtures

Non-IC-rated fixtures in a closed top dam shall not be air-sealed. The box or other method can be air-sealed. The preferred method is to upgrade existing recessed lights to airtight IC-rated or surface-mount light fixtures. Both are allowable weatherization expenses.

Closed Top Dam Defined—A fixture that is dammed with a metal, sheetrock, or other non-combustible material that extends at least 24" above the fixture and has a cover over the top that will prevent insulation from entering inside the dammed area.

7.0 Attic/Ceiling Insulation

Insulating attics and ceilings are allowable expenses when justified using the AkWarm improvement options report where the Savings to Investment Ratio (SIR) is 1.0 or greater.

7.0.1 Installing Loose Fill—Insulation material shall be installed in a uniform manner throughout the attic and cover exterior wall plates. Two insulation depth markers will be installed approximately 5' and 15' from the attic access and visible from the access.

7.0.2 When insulating attic/ceilings, the thermal and pressure boundary should be aligned.

7.1 Ceiling Loading

Visually assess the ability of the ceiling to bear the weight of additional insulation.

7.2 Insulating Knee Walls

Insulating knee walls (when part of the thermal boundary) is an allowable expense when justified using the AkWarm improvement options report where the Savings to Investment Ratio (SIR) is 1.0 or greater.

7.2.1 Cavity under Knee Wall

The floor cavity immediately below the knee wall shall be air-sealed.

7.2.2 Vapor Barrier

Any vapor barrier that is installed shall be located on the warm side of the cavity being insulated.

7.3 Sloped Ceilings

Sloped ceiling cavities shall be insulated using one of the following methods:

a. Dense pack the sloped ceiling area. Seal all penetrations and bypasses along slope to prevent any moisture migration.
b. Sloped cavities may be insulated with loose fill, batt, or rigid insulation while maintaining a ventilated 1” air space between the insulation and the roof sheathing.

7.4 Attic/Ceiling Damming

Attic/ceiling damming requirements are detailed below.

7.4.1 Recessed Lighting Fixtures and Other Heat-Producing Fixtures

A solid, flame-resistant enclosure shall be securely attached over or around all recessed lighting fixtures or other heat-producing fixtures (including doorbell transformers) that are not listed for insulation cover (IC). Such enclosures shall:

a. Keep insulation at least 3” from the sides of the fixture.
b. Be made from metal or sheetrock, or other material with a flame spread rating of 25 or less, in accordance with ASTM E-84. (See WOM Section 6.)
c. Be securely attached to the ceiling structure to prevent their displacement during and after the installation of insulation.
d. Extend at least 24” above the top of the fixture if it is a closed-top enclosure.

Exception(s):

a. If a closed-top enclosure is impractical, an open-top enclosure can be used. An open-top enclosure shall extend at least 4” above the final level of insulation. There shall be 1” or more air space above the dam. All other requirements listed above still apply.
b. Type IC-rated metal recessed lighting fixtures and other heat-producing fixtures that are certified by an independent laboratory as being capable of dissipating fixture heat can be covered with insulation. These fixtures shall be marked as UL Listed "Recessed fixture Type IC.”

7.4.2 Exhaust Fans

Exhaust fans in attics and/or dropped ceilings are not considered heat-producing fixtures.

7.4.3 Flues and Chimneys

If insulation is added, these conditions apply:

a. 3” air space required around all chimneys and flues.
b. A retaining dam shall be constructed to ensure 3” air space is permanently maintained, extending a minimum of 4” above the final level of insulation. The dam needs to be capped with non-combustible material before insulating.
c. Closer clearances are acceptable if allowed by the manufacturer. (Documentation must be in the client file.)

7.4.4 Photo Documentation

A photo that clearly shows the installed insulation dam shall be kept in the client file.

7.5 Exhaust Ducting in Attics/Ceilings

Refer to 12.0 *Mechanical Ventilation*.

7.6 Heating and Cooling Ducting in Attics/Ceilings

Refer to 15.0 *Heating and HRV Ducts*.

7.7 Knob and Tube Wiring in Ceilings/Attics

Insulation may be installed over knob and tube wiring found in attics or ceilings when the following procedures are followed.

7.7.1 Inspection

The wiring shall be surveyed by a licensed electrical contractor who shall certify in writing that the wiring is in good condition with no evidence of improper overcurrent protection, conductor insulation failure or deterioration, and with no improper connections or splices. Repairs, alterations or extensions of or to the electrical system shall be inspected by an electrical inspector.

7.7.2 Overcurrent Protection

All knob and tube wiring that is to be covered with insulation shall have overcurrent protection. Overcurrent protection shall be either circuit breakers or Type S fuses. Type S fuse adaptors shall not accept a fuse of an ampacity greater than is permitted.

7.7.3 Insulation

After inspection and any subsequent repairs and corrections are made, or over current protection installed, fiberglass or cellulose insulation may be installed. Loose

or rolled thermal insulating materials may be installed over knob and tube wiring as long as the insulation meets the National Fire Protection Association (NFPA) 101 Life Safety Code, as identified with a flame spread factor of 25 or less. Foam insulation is not allowed for use with knob and tube wiring. If repairs or overcurrent protection are not made or provided, then no insulation shall be installed in contact with the knob and tube wiring, and the owner of the building will be notified in writing of the areas needing repair or circuits needing overcurrent protection.

7.8 Wiring (Other than Knob and Tube)

Insulation may be installed over wiring (other than knob and tube wiring) found in attics or ceilings when the following procedures are followed.

7.8.1 Splices and Connections

All splices and connections shall be in UL Listed junction boxes that have covers that are attached with screws prior to insulating the attic.

7.9 Attic Access

Access shall be provided into attic spaces wherever it is practical for a person to reasonably work. Access shall be from the exterior when possible. Exterior access shall be sized to allow for entry into the attic. All installed attic access shall be easily movable, such as on hinges or screwed. Nails shall not be used to secure attic access covers. If interior access is required, access covers and doors that open to conditioned living spaces shall be airtight and insulated.

7.9.1 Framing Access Openings

Attic entry access shall be framed to prevent loose-fill insulation from falling or sloughing through the opening. If interior access is to be installed, it shall have an opening of least 14 1/2” x 24”, and be installed in a workmanlike manner. In all cases, a rigid dam around the opening shall extend at least 4” above the level of the insulation and made of a minimum 1/2” plywood or equivalent.

7.9.2 Knee-Wall Access Openings

If attic access is provided through a knee wall, the access shall be at least 14 1/2” x 24”. All installed knee-wall access shall be airtight and easily movable, such as on hinges or screwed. No nails can be used to secure knee-wall access covers.

7.9.3 Insulating Access Openings

Attic access covers shall be insulated to the same level as the surrounding area whenever possible.

7.10 Retractable Ladders

Attic access doors that incorporate retractable ladders or similar devices shall be insulated to at least R-10 by installing an insulating cover over the opening of the attic. This cover shall be designed and installed in a fashion that will allow it to be easily removed and reinstalled by the homeowner when the attic access is used.

7.11 Passive Ventilation

When no electricity is available, the installation of ventilation is allowable, such as opening windows or opening wall ports. The installation of additional ventilation is not required.

7.11.1 Ventilation Baffling

Baffling shall be installed for those eave/soffit vents that are necessary to meet minimum ventilation requirements. Baffling shall be installed in a fashion that will permanently maintain the airflow from the vent. Baffling shall be installed in a fashion that allows the maximum amount of insulation to be installed over the top plates of outside walls. Baffling shall extend a minimum of 4" vertically above the level of insulation and be stapled on the inside. Baffles will extend down to top plate and direct airflow from soffit venting up and over insulation.

8.0 Wall Insulation

Insulating walls is an allowable expense when justified using the AkWarm improvement options report where the Savings to Investment ratio (SIR) is 1.0 or greater.

Existing Wall Cavities

If any of the following conditions exist, then the wall cavity should not be insulated:

a. **Knob and Tube Wiring—**Wall cavities that contain knob and tube wiring that cannot be certified.

b. **Insulated Cavity**—Cavities that are fully insulated.

c. **Cavities Containing Ducts/Heaters—**Any part of the cavity that is used as, or contains, an HVAC duct, contains a gas wall furnace, or contains an electric wall heater or other heat-producing device.

d. **Un-insulated Soffit Next to Cavity—**The cavity is open to an un-insulated soffit with a recessed light fixture or other heat-producing device that cannot be properly dammed.

e. **Cavities Next to Fireplace or Chimney—**The cavity is next to a masonry fireplace or chimney with less than 3" clearance between cellulose and masonry.

f. **Cavity Next to Pocket Door—**The wall cavity is connected to an unprotected pocket door cavity.

g. **Repairs Needed**—Interior or exterior repair is needed and will not be performed as part of the weatherization package of the dwelling, water leaks are present, or substandard interior or exterior sheathing is present.

h. **Solid Walls**—Walls are solid masonry, concrete, concrete block, wood, or adobe.

8.1 Dense Pack Wall Insulation

All closed wall cavities that can be insulated shall be insulated by means of dense-packing insulation. Manufacturer's specifications shall be adhered to for density and installation techniques.

Exception(s):

a. The voltage drop is greater than 5 volts at any outlets or lights before insulating.

8.1.1 Fill Tube Method

Insulation will be installed using the fill-tube method.

8.1.2 Interior/Exterior Installation

Installers shall get a signed authorization prior to drilling from the homeowner or landlord allowing the installer to drill holes in the home. Dense pack insulation may be installed from the exterior or interior.

8.1.3 Water Column (WC) Pressure

Insulation blowing machines shall be tested and perform at a minimum of 80 inches WC on the date of installation. This measurement shall be recorded on the certificate of insulation.

8.1.4 Balloon-Framed Walls

Walls that do not have a top and/or bottom plate (balloon-framed) shall have stops installed in the top and/or bottom of the cavity before insulating. The stops shall be installed in a manner that will withstand dense-pack insulation installation.

8.2 Treatment of Interior and Exterior Surfaces

The following procedures should be followed when treating exterior or interior surfaces for insulation purposes.

8.2.1 Lead-Based Paint

Exterior and interior siding shall be inspected prior to any work. Siding surfaces that may be coated with lead-based paint shall be tested, or presumed to be coated with

lead-based paint. Work shall follow procedures in 23.0 *Lead-Safe Weatherization (LSW).*

8.2.2 Removing Exterior Siding

Exterior siding shall be removed or lifted to gain access to the exterior wall for drilling. Siding shall be replaced after insulation is installed. Any siding that is damaged shall be repaired or replaced with matching siding that is primed and painted to match existing siding.

8.2.3 Drilling Exterior Siding

Exterior siding not containing asbestos that cannot be removed or lifted before drilling walls may be drilled through with the owner's permission. Holes shall be drilled in a level line, and all holes will be filled with a tight-fitting, wooden plug that is installed using an exterior grade, non-silicone-based adhesive, and then filled and smoothed with exterior-grade spackle, textured to match existing surface(s), primed, and painted to match existing siding.

8.3 Open Wall Cavities

The following procedures shall be followed when insulating open wall cavities.

8.3.1 Insulating Open Cavities

Batt insulation shall be tight-fitting, but not compressed. Insulation installed on the interior of home shall be installed per the manufacturer’s specifications.

8.4 Interior Applied Insulation

a. An appropriate air/vapor barrier shall be established.
b. Insulation shall be covered to meet applicable manufacturer’s specification and fire code.

9.0 Crawlspace/Under-Floor/Perimeter Insulation

Insulating floors over unconditioned crawlspaces and basements or walls of crawlspaces or basements is an allowable expense when justified using the AkWarm improvement options report where the Savings to Investment Ratio (SIR) is 1.0 or greater.

Exception(s):

a. The clearance between the ground and the structural framing of the sub-floor is less than 24”.

b. Floor contains knob and tube wiring that cannot be certified safe by a licensed electrician or inspector.
c. There is sewage waste on the ground, or any other condition is present that poses a health or safety hazard that cannot be corrected with available repair funds.
d. The sub-floor, floor, or structural members are wet, rotten, or unsound, and the problem cannot be corrected with available repair funds.
e. Insect or rodent infestation is present that cannot be eliminated prior to insulating.
f. Extensive debris or household goods or personal belongings are present.

9.0.1 Installation Standard

Insulation shall be installed as follows:

a. Be in substantial contact with the sub-floor or wall with no voids or gaps.
b. Insulation shall be cut to fit each joist space.
c. All ends shall fit tight without overlapping.
d. Insulation shall fit tight against structural members, rim joist, foundation walls, and pipes.
e. Insulation shall not be installed between conditioned space and water/heat pipes unless it can be assured that water pipes stay above freezing such as in an insulated utilidor.

9.1 Insulation Support

Insulation shall be properly fastened so as to not sag or fall out.

9.2 Ground Cover

Ground cover moisture barrier shall be installed in accordance with the following:

a. Shall be installed in a crawlspace when no ground cover exists or when an existing ground cover has been extensively damaged.
b. All wood or other cellulose fiber-based debris, where practical, shall be removed before new ground cover is put in place.
c. The ground cover shall be 6 mil polyethylene, or its equivalent in perm-rating, strength, and resistance to soil-chemical degradation.
d. All joints shall be lapped a minimum of 12” and taped with tape rated for polyethylene, or sealed with a compatible poly sealant.
e. The poly cover shall extend at least 6” up the foundation wall/footer or pier blocks but shall not contact any untreated wood members.
f. New ground cover may be installed over existing ground cover that is deteriorated or incomplete.

Exception(s):

a. When under-floor insulation is installed over an unconditioned basement or crawlspace and has no exposed soil, ground cover is not required.
b. Ground cover is not required when there is no air boundary (i.e., skirting) between the under-floor and outside.

9.3 Crawlspace Access

If adding a crawlspace access, the minimum access opening size shall be 18” x 24”.

Exception(s):

a. Smaller access is allowable when dictated by existing framing.

9.3.1 Exterior Access

Exterior access to the crawlspace shall have a cover or door that fills the opening, is tight-fitting, and can be securely attached using hand-operable mechanical fasteners. Nails shall not be used to secure access covers to framing. The cover and framing material exposed to weather, or in contact with soil or concrete, shall be pressure-treated or cedar. Other types of wood may be used if they are primed and painted with exterior grade paint. Nails, screws, fasteners or other hardware used shall be made of galvanized metal, stainless steel, or similar corrosion-resistant material.

9.3.2 Interior Access

Interior access to the crawlspace shall have a cover or door that fills the opening and is reasonably tight-fitting. Horizontal access covers shall provide structural support equivalent to that of 3/4” plywood. Access covers adjacent to a conditioned space shall be insulated to a minimum of R-19 for horizontal openings and to a minimum of R-11 for vertical openings. The insulation shall be permanently attached to access covers. Interior access covers shall be weatherstripped if used as the envelope boundary.

9.4 Passive Ventilation in Crawlspace

9.4.1 Closeable Vents

Closeable vents are allowable. Use caution during installation. Foundation vents can be a source of heat loss and air infiltration.

9.4.2 Vent Opening Location

New vent openings shall not be located within 48” of existing water pipes.

9.4.3 Vent Screening and Framing

All new and existing vents shall be screened with 1/4" corrosion-resistant wire mesh, secured on all four sides, and trimmed so that no exposed edges of the wire mesh are showing from the outside. Expanded metal covers may be used. Wood framing in contact with concrete or ground shall be pressure-treated or cedar.

9.4.4 Rigid Foam Plug

When using a removable rigid foam plug to insulate an existing vent, clearly mark it.

9.5 Sealed Crawlspace and Mechanical Ventilation

If installing an exhaust fan in the crawlspace, the exhaust fan shall be rated for continuous operation, sized to provide a minimum of 1 CFM exhaust for every 50 square feet of crawlspace floor area. Exhaust termination shall be a minimum of 5' (measured on the horizontal) from any operable door or window fresh air inlet. Ground cover is required as detailed in 9.2 *Ground Cover.*

9.5.1 Combustion appliances in crawlspaces must have combustion air to code.

9.6 Crawlspace/Unconditioned Basement Combination

In instances where an unconditioned basement and crawlspace are found in the same structure, two treatment options are acceptable and shall be evaluated for cost effectiveness:

9.6.1 Crawlspace/Unconditioned Basement Combination, Option 1

Treat the entire area as a crawlspace and insulate accordingly.

9.6.2 Crawlspace/Unconditioned Basement Combination, Option 2

Construct a permanent wall dividing the two areas. Treat each area according to relevant specifications.

9.7 Rim Joist Area

Rim joist and sill areas shall be air-sealed and insulated to a minimum of R-10 using rigid foam or spray foam.

9.8 Exterior Foundation Insulation

Exterior foundation insulation shall be an acceptable alternative to under-floor insulation at the discretion of the Grantee. When exterior foundation insulation is installed, the Grantee or subcontractor shall follow the specifications detailed below.

9.8.1 Minimum R-Value for Walls

Insulation installed shall have a minimum thermal resistance of R-10.

9.8.2 Insulation Installation

Insulation shall be installed from the bottom edge of the siding to a depth equal to the local "frost line" (as determined from local building or water utility officials) or 2’ below grade.

Exception(s):

a. Insulation shall not be installed, nor excavation take place, below the level of any foundation footing.

9.8.3 Excavation in Preparation for Insulation

Prior to any excavation, the Grantee or subcontractor shall reach an agreement with the client regarding protection or removal and replacement of any plants or other items, which will be disturbed and damaged by the excavation. Any required excavations shall be promptly backfilled after work is completed, and all plants or other items replaced in their original locations, unless released, in writing, from this obligation by the client.

9.8.4 Utility Locating

The installer shall be responsible to locate, protect, and if damaged, repair any underground cables, pipes, utility lines or other obstructions during excavation.

9.8.5 Surface Preparation and Attachment of Insulation

The foundation surface shall be cleaned and prepared in accordance with the insulation manufacturer’s recommendation. Insulation shall be attached to the foundation according to manufacturer’s specifications.

9.8.6 Protection and Flashing of Insulation

Insulation material shall be protected and flashed to prevent water intrusion, and rated for ground contact where required.

9.9 Interior Foundation Insulation

When interior perimeter insulation is installed, the installer shall follow the specifications detailed below.

9.9.1 Minimum R-Value

Insulation installed shall have a minimum thermal resistance of R-10.

9.9.2 Batt or Blanket Insulation Installation

Batt or blanket insulation shall be in contact with foundation, extend from the bottom surface of the sub-flooring (including band joists), and permanently fastened downward to the crawlspace floor. All seams between adjacent batts, blankets, or sheets shall be either continuously taped or stapled (on no more than 6” spacing) along their entire length.

9.9.3 Rigid Insulation and/or Spray Foam

The insulation shall start at the bottom of the sill and extend to the crawlspace floor. If code dictates, insulation shall be covered with appropriate fireproofing to meet code.

9.10 Cantilevered Floors

Cantilevered floors shall be insulated using one of the following methods.

9.10.1 Insulate Cantilever, Open Through Rim

When the floor joists extend beyond the foundation wall and the rim area is open, extend the insulation batt into the cantilevered area from the crawlspace. The thickness of the batt insulation shall be thick enough to satisfy the requirement that insulation be in substantial contact with the under-floor. Install rigid foam into rim cavities and air-seal so no air movement is occurring from cantilevered area to crawlspace. If there are plumbing and heating in the cantilevered area, minimum R-10 rigid foam insulation will be installed to the exterior of pipes or ducting and air-sealed to effectively bring the plumbing and heating to within the thermal and pressure boundary.

Exception(s):

a. Plumbing and ducting are situated such that insulation cannot be installed. Do not insulate and document the reason in the client file.

9.10.2 Insulate Cantilever, Open Under Floor

The installer shall install insulation batt that is the full thickness of the floor joist from the exterior. A cover of 3/8” exterior grade sheathing or similar material shall protect the insulation installed. If subjected to intermittent moisture (i.e., splashback, etc.), wood sheathing shall be primed on all exposed sides or pressure-treated plywood shall be used. Air-seal penetrations through sheathing or sub-floor.

9.10.3 Insulate Cantilever, No Access

The installer shall drill through existing interior or exterior cover, blow insulation into all joist cavities until full, plug holes using plugs and glue recommended for the surfaces being glued. Fiberglass insulation shall be blown at a density of 1.5 pounds per cubic foot and cellulose insulation shall be blown at a density of 3.5 pounds per cubic foot. Air-seal penetrations through sheathing or sub-floor.

9.11 Floor over Unheated Attached Garage, No Access

The installer shall drill through existing interior or exterior cover, blow insulation into all joist cavities until full, plug holes using plugs and glue recommended for the surfaces being glued. Cellulose insulation shall be blown at a density of 3.5 pounds per cubic foot. If the ceiling being drilled for access is drywall or plaster, the holes shall be plugged and skim coated with joint compound ready for light sand.

9.11.1 Floor over Attached Garage, Open Joists

Under-floor insulation installed in open floor joists over a garage shall be covered with material having a flame spread index of 25 or less, and a smoke developed index of not greater than 450 when tested in accordance with *ASTM E84-01 Flamespread*. (See WOM Section 6.)

10.0 Skirting—Insulated and Un-insulated

Foundation perimeters of buildings exposed to weather can be skirted. When conditions do not allow for insulating floors, such as too little clearance or plumbing that needs to remain within the heated envelope, a well-sealed insulated skirt is an effective measure.

Un-insulated skirting can be an effective measure in high wind areas where wind washing can cause extensive heat loss even though a floor might be insulated.

Skirting can prevent wind washing, which can be the cause of plumbing freezing.

Exception(s):

a. Where permafrost exists, skirting can cause the ground to melt and possibly cause frost heaving.
b. When there is sewage waste on the ground or any other condition is present that poses a health or safety hazard that cannot be corrected with available repair funds.
c. The sub-floor, floor, or structural members are wet, rotten, or unsound, and the problem cannot be corrected with available repair funds.
d. Insect or rodent infestation is present that cannot be eliminated prior to skirting.
e. Extensive debris or household goods or personal belongings are present.

10.1 Installation Standard

All materials that contact ground should be moisture-tolerant and rot-resistant such as AWW.

When installing insulated skirting, it is advisable to have a sealed ground vapor retarder. (See 9.2 *Ground Cover*.) If this is not possible, the use of an exhaust fan that keeps the crawlspace at negative pressure is another option. (See 11.5 *Sump Pumps* and 11.6, *Mechanical Crawlspace Ventilation for Moisture Control*.)

Skirting shall:

a. Be securely fastened to existing structure.
b. Be able to withstand wind loading.
c. Be able to shed bulk water and prevent water intrusion.
d. Have all joints sealed with exterior grade caulk.
e. Have at least one access door provided.
f. Be fastened with exterior grade fasteners that are compatible with AWW materials.

10.2 Skirting Insulation

a. Insulation should be a minimum R-Value of R-10. 2” rigid board foam is recommended.
b. Insulation shall be applied to the interior side of skirting directly against the sheathing.
c. Attach insulation using appropriate fasteners and/or adhesive.
d. Avoid insulation voids.

10.3 Access Door

a. Shall be provided with easy-opening hardware.
b. Access doors may not be closed and opened by use of screws.

11.0 Moisture Control

Moisture Problem Defined: Any condition, which, if left unattended, will allow moisture in any state (liquid, vapor, or ice) to damage the dwelling structure. Evidence of moisture problems includes, but is not limited to, visible rot, mold, peeling paint, swollen/bulged/soft building materials and/or discoloration of building component surfaces.

11.1 Roof/Plumbing Leak

The Grantee shall not air-seal or insulate locations that contain plumbing or roof leaks. The Grantee shall inspect for indications of leaks prior to insulating and, if found, make the owner aware using a health-and-safety notification form. A copy shall be retained in the client file.

11.2 Gutters and Downspouts

Gutter repair and/or installation are allowable if necessary to prevent rainwater from entering the crawlspace or basement.

11.3 Below Grade Vents and Penetrations in Foundation Walls

When crawlspace vents and other penetrations are found to be installed below grade, they shall be assessed to determine whether water from outside is entering the crawlspace through the vents or penetrations. The path of water into the crawlspace shall be eliminated before weatherization work is completed in the crawlspace.

11.4 Ground Cover

All crawlspaces should have ground cover installed as outlined in 9.2 *Ground Cover*.

11.5 Sump Pumps

A sump pump may be replaced, repaired, or installed to prevent water from accumulating under a dwelling.

11.6 Mechanical Crawlspace Ventilation for Moisture Control

In crawlspaces with seasonal standing water, an exhaust fan may be installed above the high water mark that allows for continuous ventilation of the crawlspace directly to the outdoors.

11.7 Dehumidifiers

A dehumidifier may be replaced, repaired, or installed to prevent water damage to a dwelling unit having persistent and unresolved high moisture levels. The installation shall comply with specifications detailed in 13.0 *Dehumidifiers*.

11.8 Client-Controlled Conditions

The Grantee shall inform the client of any observed client-controlled conditions contributing to high moisture levels in the dwelling. The Grantee shall document in the client file those recommendations that would help lower moisture levels.

11.9 Mold

The Weatherization Assistance Program is not a mold remediation program. Funds should not be used to test, abate, remediate, or purchase mold insurance. Abatement/remediation is defined as disturbing more than 10 square feet of mold area. Funds may be used to correct energy-related conditions to allow for effective weatherization work and/or to ensure the immediate health of workers and clients. The Grantee should ensure that regular weatherization work is performed in a manner that does not contribute to mold problems.

11.9.1 Observed Pre-Existing Mold

The initial home weatherization assessment shall record if mold is observed. At a minimum, document unusual odors in the house, moisture (or signs of past moisture) on windows and/or doors, visible mold, gutter or grade problems around the home, wet crawlspaces, and unusually high humidity levels. If mold is observed, photographs shall be taken, and the location and an estimate of the area in square feet shall be documented in the client file.

11.9.2 Pre-Work Notification

If mold is observed, the Grantee shall provide to the client (and owner if rental dwelling) notification to inform the client of the observation of mold in the home. The notification will include specific work to be done on the home that should minimize the mold problem. The notification needs to be discussed with and signed by the client (and owner if rental). A copy of the signed statement shall be retained in the client file.

11.9.3 EPA Mold Pamphlet

The Grantee shall provide to every client served the EPA pamphlet “A Brief Guide to Mold, Moisture, and Your Home.” The client shall sign a document acknowledging receipt of the pamphlet and a copy shall be kept in the client file. (Acknowledgment of receipt of the pamphlet can be part of notification listed in 11.9.2 *Pre-Work Notification.*)

11.9.4 Personnel Training

Grantees are required to provide assessor AND crew training on identification and assessment of moisture and mold hazards, methods to alleviate conditions that promote mold growth, prevention of mold, and protocols for client notification. DOE developed a recommended mold training curriculum that can be used for training

purposes; a copy of the presentation is available at the Weatherization Assistance Program Technical Assistance Center website (http://www.waptac.org).

11.9.5 Deferral of Weatherization Work due to Mold

- Weatherization in dwelling units with mold conditions greater than 30 contiguous square feet (i.e., is touching without any breaks; if questionable, assume it is contiguous) must be deferred until the mold conditions are remediated by the owner or a company licensed and insured to provide mold abatement.
- If the Grantee deems regular weatherization work would contribute to mold growth, then the work should be deferred until the mold conditions are remediated by the owner or a company licensed and insured to provide mold abatement.

  If weatherization work is deferred due to observation of mold, then the client should be referred to the appropriate public or non-profit agency for remedial action. Refer clients to the EPA website (http://www.epa.gov/mold) for more information—not remedial action.

11.9.6 Moisture Control and Ventilation

In situations where mold conditions are observed but do cause a deferral, regular weatherization work shall assess for and incorporate ways to minimize moisture sources, condensation problems, and ensure an operational ventilation system is installed per 12.0 *Mechanical Ventilation*.

11.9.7 Worker Protection

Procedures for worker protection found in U.S. Department of Labor Occupational Safety and Health (OSHA) *"A Brief Guide to Mold in the Workplace"* (http://www.epa.gov/mold/moldresources.html) shall be followed when alleviating or working in the area of mold.

11.9.8 Occupant Protection

Procedures for occupant protection found in U.S. Department of Labor Occupational Safety and Health (OSHA) *"A Brief Guide to Mold in the Workplace"* (http://www.epa.gov/mold/moldresources.html) shall be followed when alleviating or working in the area of mold.

12.0 Mechanical Ventilation

The Grantee shall ensure mechanical ventilation is available to alleviate excess moisture and the buildup of indoor pollutants. Whole house and spot ventilation shall minimally meet the following standards. Higher flow rates may be deemed necessary dependent on pollutant sources, moisture, occupants, etc.

a. The ventilation system shall have an override control, which is appropriately labeled and readily accessible to the occupant. It may be integrated in a labeled

wall-mounted control or in the air-moving device that requires the removal of the cover plate or grill. It may be a labeled breaker.

12.1 Whole House Mechanical Ventilation

Mechanical whole house ventilation is required. The Grantee may select Option 1 or Option 2 in order to meet this requirement (only one of them). The option used to comply with whole house ventilation must be documented in the client file. All options must comply with 12.1.1, 12.1.2, and 12.1.3. **If using *Department of Energy funds*, the Grantee must use ASHRAE 62.2 2016.**

Option 1: ASHRAE 62.2 2016

Option 2: Install a fan that is flow-tested to meet or exceed the flow requirement determined in the table below (if applicable, adjusted for occupancy density). The fan shall be controlled by an automatic switch that does not require the occupant to activate it or a similar control.

Option 2 Ventilation Requirements

Number of Bedrooms:	0-1	2-3	4-5	6-7	>7
<1500 square feet	35	55	75	95	115
1501-3000	50	70	90	110	125
3001-4500	65	85	105	125	145
4501-6000	80	100	120	140	160
6001-7500	95	115	135	155	175
>7500 square feet	110	130	150	170	190

Different occupant density: The table assumes two persons in a studio or one-bedroom dwelling unit and an additional person for each additional bedroom. Where higher occupant densities are known, the rate shall be increased by 10 CFM for each additional person.

12.1.1 Whole House Ventilation Systems

The following types of whole house ventilation systems may be installed to meet the whole house ventilation requirement.

a. Exhaust fan
b. Heat Recovery Ventilator.

12.1.2 Whole House Fan Requirements

a. Have a sone rating of 1 or less.
b. Motors shall be rated for continuous use.
c. Equipped with a back draft damper located at either the fan outlet or the vent termination.

Exception(s):

a. Heat Recovery Ventilator and remote mounted fans are exempt from sone rating requirements.
b. Fans designed and wired to operate constantly do not require a damper.
c. -3 sone rating required for mobile home ventilation.

12.1.3 Verification of Fan Performance

An exhaust fan will be performance-tested using an approved method to ensure the ventilation rate meets whole house ventilation required CFM flow. Document in the client file.

12.2 Source-Specific Exhaust in Kitchens

A working range hood, vented to the exterior, shall be present where a combustion range, cook top, or oven is present. If using a range hood as a whole-house fan, the range hood must comply with whole house requirements.

Exception(s):

a. A home without electricity.
b. A range hood is impractical. Document in the client file.

12.2.1 Kitchen Range Hood Ducting Shall:

a. Be constructed of galvanized metal, stainless steel, or copper.
b. Be airtight, with smooth interior finish and ducted to the outside.
c. Be connected to the collar of a termination cap. Collar shall pass through the wall or roof sheathing.
d. Be mechanically fastened at each joint using 3 equally spaced screws, and sealed using an approved UL Listed method.
e. Have a terminal cap with an opening size at least equivalent to the net free area of the duct.
f. Have no more than the equivalent of two 90 degree elbows in the run.

12.3 Source-Specific Exhaust in Bathrooms

Installation is an allowable expense for health-and-safety reasons. When replacing a fan that has a light, the replacement fan also must have a light.

Exception(s):

a. When a like-for-like replacement is not available, obtain the client's signed approval of the type of fan unit that will be installed prior to changing the unit. Keep justification for the deviation and the client's certified acknowledgement in the client file.

12.3.1 Sone Rating

Exhaust fans installed to provide local bathroom exhaust shall have a sone rating of 1 or less.

Exception(s):

a. -3 sone rating for a mobile home exhaust fan.

12.3.2 Energy Use

Exhaust fans installed to provide local bathroom exhaust shall have an operating watt draw of 50 watts or less.

12.3.3 Bathroom Ducting Requirements

a. Ducts will be smooth, will have the shortest run possible, and will have no more than two 90 degree elbows.
b. Duct diameter will be equal to or greater than the exhaust fan outlet.
c. Up to 2' of flexible duct will be permitted to accommodate tight spaces and reduce noise.
d. Ducts installed outside of the thermal envelope will be insulated to a minimum of R-8.
e. Shall be airtight and ducted to the outside.
f. The duct shall be connected to the collar of the termination cap. The collar shall pass through the roof sheathing.
g. Shall be mechanically fastened at each joint, to the fan outlet and to the collar of termination cap, using a minimum of 3 equally spaced screws and sealed using a UL Listed method.
h. Terminal elements shall have at least the equivalent net free area of the duct work.
i. Horizontal duct runs shall be supported using nylon, plastic, or metal strapping with a minimum width of 1/2". Support strapping or hangers shall not compress

the insulation. Support strapping or hangers shall be installed within 1’ of a joint or connection and a minimum of every 4’ thereafter, or per manufacturer’s recommendation.

j. Insulated flex duct may be used if the diameter is 50% more than the fan outlet.

12.4 Crawlspace and Garage Ventilation

Exhaust fans may be installed for operation in crawlspaces or garages to exhaust pollutants and maintain a pressure boundary relative to the dwelling unit. The fan installed shall meet the following requirements.

12.4.1 Fan Rating

Fans installed for the purpose of maintaining a pressure boundary shall be rated for continuous operation.

12.4.2 Fan Termination Point

Fans installed for the purpose of maintaining a pressure boundary shall not terminate within 3’ of a door, window, combustion appliance air intakes, or fresh air intakes.

12.5 Dryer Ducting

Clothes dryers shall be vented directly to the outside in accordance with the following procedures.

Exception(s):

a. **Electric Dryer—**If the location prevents ducting from being installed per code, notify the client and document in the client file. Ensure the home has other means of mechanical ventilation and instruct the owner to use it while the dryer is operating.

b. **Gas Dryer—**If the location of the dryer prevents code-compliant ducting to the outside, all weatherization work shall be deferred until the situation is resolved.

12.5.1 Dryer ducting

Dryer vent ducts shall conform to the following:

a. Extend directly to the outside of the structure.

b. Have a smooth interior finish.

c. The vent shall terminate in a non-screened vent cap with a damper.

d. Not exceed 25’ in length from the dryer location to the outlet terminal; the maximum length shall be reduced 2 1/2' for every 45 degree elbow and 5’ for each 90 degree elbow.

e. Extension material in excess of 6’ must be metal with a non-ribbed interior and must be mounted in such a fashion that no traps or reversing horizontal runs are present. Horizontal runs shall be sloped toward the vent discharge. Discharge will not place moisture on building materials or walkways.

f. Screws shall not be used to connect dryer ducting.

g. A rated flex duct behind the dryer may be used for extensions of 6’ or less. This refers to transitional ducting, which is not included in the maximum length of the duct calculation (“d.” above).

h. Shall be insulated to a minimum of R-4 if the duct is more than 6’ in length and passes through unconditioned space.

Exception(s):

a. Condensing dryer.

12.6 Outdoor Air Inlets

You may install outdoor air inlets if whole-house fan performance during normal operating conditions creates a negative pressure with reference to the dwelling unit of more than 5 Pascals. Document pre and post tests.

Whole-House Fan Test Protocol

With a digital manometer, test the pressure difference between the inside and the outside of the dwelling with only the whole-house ventilation fan operating.

Outdoor air inlets for individual rooms when installed shall:

a. Have a controllable and secure opening.

b. Be sleeved and flashed or otherwise designed so as not to compromise the properties of the wall or window in which they are placed.

c. Be screened or otherwise protected to prevent entry of leaves, debris or pests.

d. Not be located within 10’ of hazardous or unsanitary locations.

e. Shall not be placed in closets.

f. Shall not be placed within 6’ of a chair, couch, or bed. Air should not be introduced where it will cause discomfort for the client.

13.0 Dehumidifiers

The installation of a dehumidifier is allowable, provided it is determined to be the most effective and cost-efficient method of reducing moisture problems or high moisture buildup in a home. Dehumidifiers shall be installed only after other measures with less of an energy penalty have been found ineffective at reducing moisture problems.

Moisture Problem Defined—Any condition, which, if left un-attended, will allow moisture in any state (liquid, vapor, or ice) to damage the dwelling structure. Evidence

of moisture problems includes, but is not limited to, visible rot, mold, peeling paint, swollen/bulged/soft building materials, and/or discoloration of building component surfaces.

13.1 EnergyStar-Rated and AHAM-Certified

The dehumidifier installed shall be EnergyStar-rated and certified by the Association of Home Appliance Manufacturers (AHAM) Specification DH-1 (www.aham.org).

13.2 Sizing

The Grantee shall size dehumidifiers for installation according to the following general guidelines, and dehumidifiers shall be controlled by a humidistat to automatically maintain the desired humidity level. Dehumidifier capacity shall be determined by the rated capacity test contained in AHAM Specification DH-1 (www.aham.org).

Floor Area of House (sq. ft.)	Dehumidifier Capacity (Pints/24 hours)
Up to 1,000	25
1,000-2,000	30
2,000-3,000	35

13.3 Low Temperature Location

When the dehumidifier is to be located in a basement or other area where the normal operating temperatures are expected to be below 65 degrees Fahrenheit, the Grantee shall install a dehumidifier rated to operate in “low temperature” conditions.

13.4 Electrical Safety

The Grantee shall observe all manufacturer warnings regarding electrical safety. The Grantee shall not allow drain hoses, water drainage, or disposal near electrical circuits, cords, or devices.

13.5 Hose to Drain Required

The Grantee shall install a hose to drain the dehumidifier's water bucket. The hose shall be mechanically attached to the water bucket outlet and terminate at a drain or sump. The hose installed shall not create a tripping hazard.

14.0 Heating Systems

Grantees/subcontractors shall ensure that upon completion of weatherization services all dwelling units have a safe, operable, permanently installed, and adequate heating system.

Heating System Defined—Heating system is any component of a residential space heating system which:

a. Distributes heat (duct work, air handler, baseboard, pipes, or radiators).
b. Generates heat or controls combustion (furnace, boiler, space heater, or safety controls).
c. Ventilates products of combustion (flue, vent pipe, and chimney).
d. Stores and supplies fuel for the heating system (tank or fuel line).

Adequate Heat Defined—Heating facilities are considered adequate if they are capable of producing the BTUs calculated by AkWarm needed to heat the habitable portions of the home at the outside design temperature for the location.

14.1 Inspection and Testing of Heating Systems

The Grantee shall inspect and test the heating system(s) in each dwelling unit for safe operation prior to delivering weatherization services and upon completion of each project.

All newly installed or repaired heating systems will be inspected to ensure safe and proper operation before job completion sign-off. This applies to all heating and hot water appliances including wood stoves, space heaters, furnaces, boilers, renewables, etc.

The Grantee shall document in the client file the condition of the heating system. This will include:

a. Heating system inspection
b. Pre and post combustion efficiency tests
c. Pre and post combustion safety tests

The client will be notified if any flammable material is stored next to a heating unit (i.e., rags, paper, etc.) All flammable materials stored near heating units should be removed immediately.

14.1.1 Inspection of Electric Heating Systems

The minimum requirement for electrically heated dwelling units is:

a. Visual inspection of the electrical system.
b. Visual inspection of heating system clearances to combustibles.

c. Visual inspection of air handler (if present).

d. Verification that the system is permanently installed and securely attached to the floor, wall, or ceiling.

14.2 Electric Heating System Service

Electric heating systems can be serviced to:

a. Correct hazards identified during initial inspection.

b. Complete system checks and repairs detailed in the work order form.

c. Improve distribution efficiency.

14.2.1 Minimum Service, No Hazards

a. Fan blades and cabinet of the air handler cleaned free of all visible dirt.

b. Check and change furnace filter if necessary.

14.3 Gas and Oil Heating System Service

Gas- or oil-fired heating systems can be serviced to:

a. Correct hazards identified during combustion safety inspection and testing.

b. Improve combustion or distribution efficiency.

14.3.1 Minimum Service, No Hazards

The minimum service for a gas or oil heating system where no hazards have been identified is:

a. Check and change furnace filter if necessary.

14.4 Heating System Replacement

Heating system replacement is allowed for the following reasons:

a. Excessive repair cost.

b. Health and safety.

c. Efficiency.

d. Fuel Switch.

14.4.1 Excessive Repair Cost

Heating system replacement is allowable when the Grantee determines that it is more cost-effective to replace the heating system than it is to repair or replace inefficient, non-operable, and/or unsafe components. If repair costs would exceed 50% of the replacement cost, replacement is allowable.

14.4.2 Health-and-Safety Reasons

Heating systems may be replaced for health-and-safety reasons (e.g., high CO, cracked heat exchanger, improper installation, occupant's disability, etc.). Document in the client file.

14.4.3 Replacement for Efficiency

Replacement of a heating system to improve efficiency is allowable when justified using simple payback.

a. The Annual Fuel Utilization Efficiency (AFUE) rating of the existing heating system shall be determined either from the manufacturer's information or by the type and age of the unit.
b. The replacement cost shall be determined by the Grantee.

14.4.4 Mini Split Heat Pump Installation

Heat pumps may be considered eligible as a heating system replacement option when the SIR is 1.0 or greater. All systems must be UL Listed to be reimbursed under the Weatherization Program.

14.4.5 Fuel Switch

A Grantee may change a dwelling's heating fuel type in certain, limited situations.

a. Changing from wood or coal heat to other types of fuel-fired heating systems for medical reasons, such as when the client is elderly or disabled and wood or coal preparation is difficult or impossible. The new fuel type shall not require physical effort to use. If the client is not elderly or disabled, the Grantee may obtain a third-party verification of the need.
b. Heat pumps can be installed as a fuel switch option in Southeast and Kodiak, only when the client, due to age or disability, cannot operate a solid fuel system (wood or coal) or health concerns are caused by a fossil fuel system. Documentation must be in the file justifying the installation of a heat pump. All other heat pump installations must be preapproved by the AHFC Program Manager
c. Switching fuels is allowed in cases when it will be possible to save significant energy dollars for a Weatherization client through the course of fuel conversion, keeping in mind the priority of *energy* savings. Two AkWarms must be run for comparison, and an SIR of 1.0 must be met. Both AkWarms must be on file for review by AHFC. (*The purpose of Weatherization is not to switch fuel types. This approach should be used minimally in the course of the program. If this is implemented regularly, the AHFC Program Manager will revisit the allowability of the measure*.)
d. Replacing an electric water heater with a storage tank integrated with a fuel-fired boiler (i.e., indirect sidearm systems).

e. Replacing a fuel-fired water heater with an electric water heater for health-and-safety concerns when the unit fails maximum depressurization testing and cannot otherwise be corrected. The new system must remedy the health-and-safety concern(s). (***Example:*** *The new system now passes the maximum depressurization test when the previous one failed.)*

f. When a client lives in an area of the state that has high electric costs and the client's primary heat is electric, an affordable direct-vent system (e.g., Toyo, Monitor, Rinnai, Navian, etc.) can be added to offset some of the electric heating cost.

g. Fuel switches shall be funded by state funds only—not DOE.

h. Prior written approval from the AHFC Program Manager must be obtained before expending funds on any other fuel switch including renewables.

14.4.6 Permit Required

Necessary permits shall be obtained prior to the replacement of the heating system. All applicable code regulations must be met as described in 1.3 *Code Compliance.*

14.4.7 Minimum Efficiency of New System

All new oil or gas heating systems installed shall have a minimum AFUE rating of 80%.

14.4.8 Thermostats

Installation of a thermostat or replacement of an existing thermostat is allowable.

15.0 Heating and HRV Ducts

All heating and HRV ducts located outside the heated envelope of the dwelling unit should be insulated to a minimum of the adjacent thermal envelope. Seal ducts before insulating. When ducts are insulated or sealed they must meet the requirements detailed in this section.

15.1 Duct Survey, Inspection, and Testing

The Grantee shall conduct diagnostic testing and visually inspect all accessible ducting in the heat distribution system including the plenums, trunk and branch lines. Refer to 4.0 *Diagnostic Testing*.

15.2 Duct Testing Required

Pressure pan testing of duct systems is required. Refer to 4.4.1, *Duct System Testing*. All mobile home duct systems must be tested.

Exception(s):

a. The Grantee may elect to have ducts tested using a duct testing device and the associated procedures outlined by the manufacturer as an alternative to pressure pan testing.
b. The entire distribution system is located within the envelope's conditioned space.

15.3 Dominant Duct Leak Test Required

Dominant duct leak test is required. Refer to 4.5 *Dominant Duct Leak Testing*.

15.4 Ducts to be Repaired or Replaced

The Grantee or subcontractor can reconnect all serviceable ductwork found disconnected from boots, trunks or plenums. The method used for reconnection can be permanent and appropriate to the materials being connected. All ductwork that is torn, crushed, or severely deteriorated can be replaced or repaired.

15.5 Duct Sealing

When determined necessary by diagnostic testing or visual inspection, ducts shall be sealed to the following standard:

a. All accessible connections to the air handler cabinet and plenums both inside and outside shall be sealed to provide permanent, airtight connections using mastic and fiber mesh.
b. All accessible ductwork-to-ductwork connections both inside and outside shall be sealed to provide permanent, airtight connections using mastic and fiber mesh tape.
c. All accessible elbows, holes, joints, seams, including lateral seams shall be sealed to provide permanent, airtight connections using mastic and fiber mesh tape.

15.5.1 Gaps

Gaps greater than 1/8” shall be sealed with a 2” wide fiber mesh tape embedded in mastic.

15.6 Flex Duct Requirements

a. Flex duct shall be of the proper length for connection between two points without excessive bends or sag.
b. Horizontal and vertical runs of flex duct shall be supported using nylon, plastic, or metal strapping having a minimum width of 1/2”. Support strapping or hangers shall not compress the insulation.

c. Support strapping or hangers shall be installed within 1’ of a joint or connection with a maximum of 4’ between supports.

d. Flex duct shall not be installed in a manner allowing direct contact with the ground.

e. Flex duct shall be connected to metal collars or boots using a layer of mastic between the metal and inner layer of the flex duct. The inner layer of the flex shall be secured using a compression strap. The outer layer of insulation shall also be secured using a compression strap.

15.7 Metal Duct

a. Metal duct, existing or installed, in unconditioned spaces shall be insulated to the level of the thermal boundary. If this level cannot be met, document the reasons in the client file.

b. Metal ducts shall be of proper length without unnecessary elbows or changes in direction.

c. Sections shall be securely connected to each other using a minimum of 3 screws for round ducts and 4 for rectangular.

d. Insulation shall be permanently secured with rot/stretch-proof twine or rust-proof wire, without unduly compressing the insulation.

e. Horizontal and vertical duct runs shall be supported using nylon, plastic, or metal strapping having a minimum width of 1/2”. Support strapping or hangers shall not unduly compress the insulation.

f. Support strapping or hangers shall be installed within 1’ of a joint or connection with a maximum of 4’ between supports.

g. Metal ducts shall not be installed in a manner allowing direct contact with the ground.

16.0 Domestic Water Heater Replacement

Water heater replacement is an allowable cost when energy savings can be justified with an SIR of 1.0 or greater.

Installed water heaters shall be anchored or strapped to resist horizontal displacement per code.

Water heaters may also be replaced for a health-and-safety reason.

16.1 Health-and-Safety Reasons for Replacement

- Active water leak that is not cost-effective to repair.
- Combustion byproducts are not venting to the outside properly, and there is no other appropriate solution to eliminate the problem but to replace water heater with a sealed combustion unit or non-combustible fuel unit (i.e., electric).

- Access to hot water is required to maintain the health of the occupants (i.e., sanitary conditions for households with young children).

16.2 Fuel Switching

Fuel switches also may be justified and allowed on a case-by-case basis. See 14.4.5 *Fuel Switch*.

17.0 Domestic Water Pipe Insulation

Installation of insulation on accessible hot and cold water lines in unconditioned and semi-conditioned spaces is an allowable cost. The first 6' of supply and return of a water heater also is an allowable cost.

Exception(s):

a. Water pipes shall not be insulated if any of these conditions are present:
   - Water pipes or valves are leaking or are improperly supported.
   - When electric heat tape is being used to prevent freezing of pipes.

17.1 Installation Standard for Foam Pipe Insulation

Insulation shall be installed to manufacturer's specification and be a minimum of 1 1/2" thick.

18.0 Water Heater Insulation

Water heater insulation blankets are allowable costs.

Exception(s):

a. A tank shall not be insulated if any of the following conditions exist and cannot be corrected with available funding:
   - Internal insulation is R-12 or greater.
   - There is evidence of leaks or other impending failure.
   - External insulation is prohibited by the manufacturer.
   - There is evidence of improper combustion for a gas-fired unit.
   - Vent pipe or draft hood is improperly installed.
   - There is improper or inadequate venting for a gas-fired unit.
   - Combustion air supply is improper or inadequate.
   - A temperature and pressure relief valve is not present or is located more than 6" from the tank or is capped or plugged.

- Hazardous or improper electrical connections are present.
- Thermostat cover plate is not present.
- Burner access doors are not present.
- Manufacturer's required clearances cannot be maintained.

18.1 Insulation Wrap R-Value

Insulating wraps shall have an insulation value of R-10 or greater.

18.2 Minimum Clearances for Heat Producing Appliances and Venting

Clearances between the surface of the wrap and adjacent heat producing appliances, including vent connectors, shall be maintained according to state and local codes.

19.0 Window Replacements and Repairs

Window replacement or repair is allowable for the following reasons:

19.0.1 Energy Efficiency

Windows and storm windows may be replaced or repaired for energy-efficiency reasons if the total cost is justified using an evaluation of cost-effectiveness where the Savings to Investment Ratio (SIR) is 1.0 or greater.

19.0.2 Health-and-Safety Reasons

Windows may be replaced or repaired if the window's condition is compromising the health and safety of the dwelling unit occupants, this includes egress in bedrooms. If the cost to replace the window is less than the cost to repair the window, then the window may be replaced.

19.0.3 Security Reasons

Windows may be replaced or repaired for security reasons. If the cost to replace the window is less than the cost to repair or replace components of the window that will reasonably ensure that the window is secure, then the window shall be replaced.

19.0.4 Durability Reasons

Windows may be replaced or repaired for durability reasons if any window components have failed or are deteriorated, and they have compromised the structural integrity of the window or of the wall framing around the window. If the cost to replace the window is less than the cost to repair the window, then the window shall be replaced.

19.1 Lead-Based Paint

The Grantee shall address painted window components in houses built before 1978 using lead safe work practices unless testing indicates no lead-based paint is present. See 23.0 *Lead-Safe Weatherization (LSW)*.

19.2 Replacement Windows

The replacement window shall have a label from the National Fenestration Rating Council (http://www.nfc.org/label.aspx) that indicates the U-factor rating and the air leakage rating. Window minimum U-value shall be .28.

19.2.1 Photo Documentation

A photo that clearly shows the window before it is replaced shall be kept in the client file.

19.2.2 Screens

All replacement windows that are openable shall have a removable insect screen.

19.2.3 Exterior and Interior Trim

All replacement windows shall be trimmed in a workmanlike manner. Exterior trim, for replacement windows, whether existing or new, shall have any bare wood surfaces primed with an exterior grade primer.

Exception(s):

a. If cedar trim is used in an exterior application, then no primer or sealer is required.

19.3 Storm Windows

A storm window may only be installed over a prime window that is structurally sound. The prime window shall be free of decay; broken windowpanes; worn or damaged rollers; missing, deteriorated, or broken glazing; and broken sashes. The Grantee shall evaluate the costs to replace a window unit with the costs associated with repairing a prime window and installing a storm window to ensure that the most cost-effective treatment is applied. The interior window, whether the prime or storm, needs to be as airtight as possible.

19.3.1 Operable Storm Windows

Operable storm windows shall be installed over existing operable prime windows, and the storm window shall not interfere with the operation of the prime window. If the operation of the prime window is impeded by paint buildup, mechanical fasteners, or other reasons, a storm window can be installed if the window is restored to an

operating condition or if the Grantee and homeowner agree in writing that the nonopening window is not required for egress or ventilation.

19.3.2 Storm Window Removal

All storm window installations shall provide an easy method of removing the storm sashes so that both the storm and prime windows can be washed.

19.4 Safety Glass

Safety glass shall be used in replacement window units or replacement glazing in locations where required by building codes.

19.4.1 Safety Glass Requirements

Safety glass shall conform to the Safety Glazing Certification Council (SGCC) labeling requirements. Installed safety glass shall have a permanently affixed manufacturer's label or etching.

19.5 Replacement Glazing

Replacement glazing shall meet the specifications found in WOM Section 8. *Materials Standards* (i.e., *10 CFR 440 Appendix A—Standards for Weatherization Materials*).

19.6 Obscure Glass

Obscure glass shall be installed in windows where privacy is important. The Grantee shall make the owner aware of locations where obscure glass is to be installed.

19.7 Egress Window

If replacing a window in a bedroom, at least one window must meet egress.

20.0 Door Replacement and Repairs

Door replacement or repair is allowable for the following reasons:

20.0.1 Energy Efficiency

Doors can be replaced or repaired for energy-efficiency reasons if the total cost to install is justified using an evaluation of cost-effectiveness where the Savings to Investment Ratio (SIR) is 1.0 or greater.

20.0.2 Health-and-Safety Reasons

Doors can be replaced or repaired for health and/or safety reasons if the door's condition is compromising the health and/or safety of the dwelling unit occupants. If the cost to replace the door is less than the cost to reasonably repair the door, then the door shall be replaced.

20.0.3 Security Reasons

Doors can be replaced or repaired for security reasons. If the cost to replace the door is less than the cost to repair or replace components of the door that will reasonably ensure that the door is secure, then the door shall be replaced.

20.0.4 Durability Reasons

Doors can be replaced or repaired for durability reasons if any door components have failed or have been damaged and they have compromised the structural integrity of the door. If the cost of replacement is less than the cost to reasonably repair the door, then the door shall be replaced.

20.1 Replacement doors

Replacement doors shall be metal or fiberglass, and insulated to a minimum R-5. All exterior door replacements shall be exterior grade.

Exception(s):

a. Wood or composite doors are allowable if a metal or fiberglass door cannot be used. Wood doors shall be solid core. Veneers on wood doors shall be a minimum of 1/8” thick hardwood.

20.1.1 Photo Documentation

A photo that clearly shows the door before it is replaced shall be kept in the client file.

20.1.2 Exterior and Interior Trim

Trim shall be installed in a workmanlike manner and shall match the existing trim as is reasonably practical. Exterior trim for replacement doors and doorframes, whether existing or new, shall have any bare wood surfaces primed with an exterior grade primer.

Exception(s):

a. If cedar trim is used, then no primer or sealer is required.

20.2 Door Finishes

Replacement wood doors will be primed and painted or sealed on both sides and on all four edges with exterior grade paint. Metal doors shall have a factory primer.

20.3 Locksets and/or Deadbolts

The configuration of the lockset/deadbolt on a replacement door shall match the existing. If installing a new lockset/deadbolt, they shall be keyed alike. The Grantee will provide two keys to the owner or occupant of the dwelling unit. When multiple locksets/deadbolts are installed in the same dwelling unit, they shall have matching keys.

20.4 Other Attached Items

a. Address numbers that were present on the existing front door or trim shall be reinstalled on the new door.
b. If an existing door had a mail slot or mechanical doorbell, the Grantee shall provide alternatives that do not require penetration of the door.
c. If a glass lite is installed it can be no larger than 12” x 12”. The glass must be a double pane thermal.
d. If replacing an exit door, door shall have exterior landing and stairs (including guardrail and handrail) per prevailing building code.
e. Peepholes can be installed on solid doors and shall be no more than 60" from the bottom of the door.

Exception(s):

a. Peepholes are only required if original door had a peephole.

21.0 Carbon Monoxide Detectors

Carbon Monoxide detectors are required outside of each sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling including the basement, but not including crawlspaces and uninhabitable attics.

Specifically for multi-family buildings, one detector is required in each unit or more as required by code.

Replace an existing CO detector that is over 3 years old or does not meet Program standards.

21.1 Detector Standards

Detectors shall:

a. Have a minimum 5-year operating life.

b. Have a battery with a minimum 5-year life.
c. Have a digital display that indicates CO levels in Parts Per Million (PPM).
d. Be UL Listed.

21.2 Detector Power Options

Battery-Operated Detectors—Battery operated detectors shall make an audible noise when the battery is at the end of its life cycle.

21.3 Labeling Devices

All installed detectors shall be labeled in a permanent fashion with the date of replacement. (This information need not be visible while the detector is mounted on the wall.)

21.4 Manufacturer's Instructions

The manufacturer's instructions shall be left with the occupant of the dwelling unit.

21.5 Education of Dwelling Unit Occupants

The Grantee shall provide at least one occupant of the dwelling unit with verbal and written information regarding the dangers of CO, how to read the CO detector, instructions on how to respond to CO levels, and how to change the batteries.

21.6 Installation of CO Detectors

a. CO detectors shall be installed before any work on the dwelling commences.
b. All CO detectors will be installed per manufacturer’s instructions by the Grantee.

21.7 Installation in Sleeping Areas

A CO detector shall be installed inside any closable sleeping room that:

a. Contains a combustion appliance.
b. Has a door that directly enters a garage.

21.8 Testing

The Grantee shall test each detector for proper operation after installation as per test procedures in the owner’s manual provided by the manufacturer.

22.0 Smoke Detectors

Smoke detectors are required in all sleeping rooms, outside of each sleeping area in the immediate vicinity of the bedrooms, on each additional story of the dwelling, including basements but not including crawlspaces and uninhabitable attics.

New/replacement is required for any units that are over 8 years old, inoperative, or do not meet Program standards.

22.1 Detector Standards

Detectors installed shall be UL Listed.

22.2 Detector Power Options

Detectors shall be powered by one of the following methods:

a. **Hardwired**—Hardwired detectors shall have a battery backup.

b. **Battery-Operated**—Battery-operated detectors shall have a lithium battery. They shall make an audible alarm when the battery is at the end of its life cycle.

22.3 Manufacturer's Instructions

The manufacturer's instructions shall be left with the occupant of the dwelling unit.

22.4 Labeling Devices

All installed detectors shall be labeled in a permanent fashion with the date of replacement. (This information need not be visible while the detector is mounted on the wall.)

22.5 Education of Dwelling Unit Occupants

The Grantee shall provide at least one occupant of the dwelling unit with verbal and written information regarding the operation of the smoke detector(s), the importance of testing, and battery replacement.

22.6 Installation Location(s) for Smoke Detectors

Smoke detectors shall be installed on walls and/or ceilings per the manufacturer's requirements.

22.7 Hearing Impaired

Hard-wired smoke alarms with visual alarms for hearing-impaired individuals are allowable weatherization expenses when current occupants would benefit from a specialized detector.

22.8 Testing

The Grantee shall test each detector for proper operation after installation.

23.0 Lead-Safe Weatherization (LSW)

Lead Safe Weatherization (LSW) must be applied to all pre-1978 housing.

a. Required: compliance with current EPA Renovator Repair and Painting Rule.
b. Required: documentation of compliance in the client file.

24.0 Asbestos

When the presence of asbestos is suspected and likely to be disturbed during the installation, modification, or replacement of any materials, equipment, or products, all health and building regulations and code requirements shall be followed.

25.0 Radon

Radon abatement is not an allowable activity.

26.0 Other Measures

The purchase and installation of the following energy conservation measures is allowable.

26.1 Types of Measures

a. Water flow restrictors.
b. Furnace or cooling filters, up to one-year supply.
c. Items that are primarily directed at reducing infiltration, such as weatherstripping, caulking, and glass repairs.
d. Brochures and other written information concerning the potential savings from installation of Low-cost No-cost measures.
e. Compact fluorescent lamps.
f. Replacement lamps for energy-efficient fixtures.

26.2 Energy Efficient Lamps (i.e., Bulbs)

The Grantee may replace incandescent screw-in light bulbs with compact fluorescent screw-in lamps (CFLs) or LEDs in each dwelling unit receiving weatherization services.

Exception(s):

Lamps should not be installed if any of the following conditions exist:

a. The socket or fixture is nonfunctional, damaged, or unsafe.
b. The circuit is controlled by a solid-state timer.
c. The circuit is controlled by a non-CFL-compatible dimmer. (LED is allowable.)
d. The fixture is located in a storage room, closet, or other seldom-used room.
e. The fixture is controlled by an occupancy sensor.
f. The client refuses to have lamps installed.

26.2.1 Types of Compact Fluorescent Lamps

Lamps that are installed shall be EnergyStar-compliant and be warranted for one year from the date of purchase.

26.2.2 Light Output

CFLs must provide light output levels that meet or exceed the level of the bulbs that they are replacing.

26.2.3 Outdoor Locations

CFLs may be installed in outdoor locations attached to the dwelling provided they are installed in a fixture that protects the lamp from the weather.

26.2.4 Testing

The installer shall test all installed fixtures before leaving the dwelling unit and shall ask the client if the lighting level is adequate, if the client is available.

27.0 Lighting Retrofit

Retrofit of lighting fixtures or replacing fluorescent tubes with LED lamps is allowable if the cost is justified using an evaluation of cost-effectiveness where the Savings to Investment Ratio (SIR) is 1.0 or greater.

27.1 Type of Fixtures and/or LED Lamps

Fixtures that are installed shall be hard-wired fluorescent fixtures that meet all of the following:

a. UL Listed.
b. EnergyStar compliant.
c. Fully warranted for one year after the date of installation.
d. T-8 or T-5 type fluorescent or LED lamp that is easily replaceable.
e. Interior fixtures shall be with electronic ballast only.
f. Installed according to local electrical code and manufacturers specifications.

27.2 Light Output

Fixtures must provide light output levels that meet or exceed the level of light needed for the task they are illuminating.

27.3 Exterior Fixtures

Exterior fixtures shall be constructed of UV resistant materials and rated for installation in damp or wet locations. Magnetic ballast fixtures are allowed.

27.4 Testing

The installer shall test all installed fixtures before leaving the dwelling unit, and shall ask the client if the lighting level is adequate, if the client is available.

28.0 Refrigerator Replacement

Refrigerators may be replaced when the replacement is justified using a State approved evaluation of cost-effectiveness where the Savings to Investment Ratio (SIR) is 1.0 or greater.

28.1 Document Cost-Effectiveness

The Grantee shall document in the client file that the replacement is cost-effective with an SIR of 1.0 or greater and the method used to determine the SIR. Use the approved calculator from www.energytools.com.

28.2 Allowable Methods to Determine SIR

The Grantee shall use the following methods to determine the SIR before replacing a refrigerator:

Weatherization program online tool: www.energytools.com

28.2.1 Data Logging and Databases

The Grantee shall use a minimum of 2 hours of data logging information, or data base referrals to determine energy usage of existing refrigerators. Link to refrigerator database www.kouba-cavallo.com/refmods.htm

28.3 Replacement Refrigerators

Replacement refrigerators shall have the EnergyStar rating.
Replacement refrigerators shall not have extra features such as door ice, through-the-door water dispensing, or automatic icemakers.

Exception(s):

a. A non-EnergyStar refrigerator may be installed provided the SIR for the non-EnergyStar model is demonstrated to be higher than the SIR for the EnergyStar model.

28.4 Refrigerator Sizing

The smallest size refrigerator that is practical for each household should be installed. The following guidelines shall be used:

Family of 1-2	15 cubic foot
Family of 3-5	18 cubic foot
Family of 5 or more	21 cubic foot

28.5 Client Agreement

The Grantee and client shall have a written agreement that is documented in the client file that the refrigerator being replaced will be removed by the Grantee. Additional refrigerators or freezers, whether working or not, may be removed upon written agreement between the owner and the Grantee.

28.6 Establishment of Ownership

If the refrigerator is installed in a rental unit, the ownership of the existing and the replacement refrigerator shall be established, and documented in the client file. This shall be done before the replacement refrigerator is installed.

28.7 Disposal of Removed Refrigerators

The Grantee shall remove the old refrigerator from the property and dispose of it at an EPA-approved disposal site that reclaims the refrigerant. The client file will contain documentation of the proper disposal from the disposal facility, or a statement signed by a commercial vendor indicating that the vendor will dispose of the refrigerator at an approved disposal site that reclaims the refrigerant.

Weatherization Operations Manual
Section 6. Technical Forms and Resources

1. **Accrual of Benefits to Tenant** [DOE only]
2. **Additional Work**
3. **Agency WX Post Measures Checklist**
4. **AHFC WX Field Monitoring Checklist** [This is being provided for informational purposes and is subject to change.]
5. **Alaska QCI Inspection** [DOE only]
6. **Assessment** [Sample]
7. **Assessment Measures**
8. **ASTM E 84 Flamespread**
9. **Attic Insulation FG Blowfill Spec**
10. **Blower Door Test**
11. **Building Climate Factors**
12. **Certificate of Insulation** [Optional]
13. **Combustion Safety Test Report** [DOE only]
14. **Combustion Safety Test Report—Daily In-Progress** [DOE only]
15. **Common Materials** [Sample]
16. **Completion of Work**
17. **Confined Space Evaluation Form**
18. **Definitions**
19. **Description of Work**
20. **Disposal Authorization**
21. **Economic Analysis of Refrigerator Replacement**
22. **Final Signoff** [Sample]
23. **Installer Certification of Insulation**
24. **Job Notes**
25. **LTAA Calculation**
26. **Maximum Depressurization Data Sheet**
27. **Promotional Release**
28. **Required WX Site Client File Documents**
29. **Tools List**

Grantees may reformat the appearance of forms provided by AHFC.

Accrual of Benefits to Tenant [required for DOE funding only]

Client #: _____ Address: _____ Initials: _____

Check below applicable benefits. Provide description when required. Shaded blocks indicate that DOE does not consider the benefit primarily accrues to the tenant.

Benefit	Tenant Pays Utilities	Utilities Included in Rent
Unsafe combustion appliance(s) repaired/replaced, ensuring H/S of tenant (e.g., cracked heat exchanger, backdrafting water heater, etc.)	Describe:	
Installation of ventilation equipment designed to mitigate potential sources of pollution within home (e.g., high moisture, mold, uneven temperatures throughout home, cold exterior surfaces) that can negatively affect health of clients		
Moisture migration into attic eliminated by air-sealing, preserving critical structural building components, mitigating conditions that could impact H/S such as mold and other environmental toxins		
Lower energy bills when seasonal temperatures are consistent with historic temperatures		
Lower than expected energy bills in the event of hotter/colder weather than in previous years		
Longer-term preservation of the property as affordable housing		
Continuation of protection against rent increases beyond that required under the WAP regulations (10 CFR 440.22(b)(3)(ii))		
Investment of the energy savings in facilities or services that offer measurable direct benefits to tenants	Describe:	
Investment of energy savings from WX work in specific H/S improvements with measurable benefits to tenants	Describe:	
Additional improvements, not related to WX, to heat and hot water distribution, and ventilation, to improve the comfort of residents		
Establishment of a shared savings program	Describe:	
Other:		
Other:		

Alaska Weatherization Program

Client Name: _____ Client #: _____

Prepared by: _____ Date: _____

Additional Work

Task(s): _____

_____

_____

_____

_____

☐ See Attached Description.

This certifies that I have been informed of the above work that has been added to this Weatherization project.

Client: _____ Date: _____
Signature

_____
Print Name (if not the person named under "Client Name" above)

Completed Additional Work

This certifies that the above work has been completed and a final inspection was completed. Final inspection applies to installation of weatherization materials only and in no way implies that the dwelling otherwise meets applicable codes.

Client: _____ Date: _____
Signature

_____
Print Name (if not the person named under "Client Name" above)

Inspector: _____ Date: _____

Comments: _____

_____

_____

_____

_____

Agency WX Post Measures Checklist

Client's last name: _____ WX #: _____ Date: _____

Inspector's name: _____

Sections 1-4 are MANDATORY WX Items

1. CO detectors: *Circle Answer*

a. Do CO monitors installed meet WOM standards ..... YES NO

b. How many CO's installed in unit? _____

c. CO's tested for Peak Level reading ..... YES NO

d. Is Replace By Date written on detector(s) ..... YES NO

2. Smoke detectors (SD):

a. Do smoke detectors installed meet WOM standards ..... YES NO

b. Are they mounted at proper location (per installation instructions) ..... YES NO

c. Is Replace By Date written on detector(s) ..... YES NO

d. Were all resident SD's date inspected for proper dates, if not replaced ..... YES NO

3. Diagnostic testing:

a. Was a Combustion Safety test completed ..... YES NO NA

b. Were the CO producing appliances tested, did they meet WOM standards ..... YES NO NA

c. Have the Blower Door Pre and Post been completed ..... YES NO NA

d. Were ducts tested ..... YES NO NA

4. Mechanical Ventilation:

a. Was mechanical ventilation installed ..... YES NO NA

b. **Circle one or more**: bath fan range vent house fan other _____

c. Is the bath fan(s) on a: sensor smart switch de-humidistat on-off switch

d. Was fan(s) installed to WOM standards ..... YES NO NA

e. If not replacing bath fan(s), are they ducted to exterior ..... YES NO NA

f. If NO, was an exception documented in file ..... YES NO NA

g. Was the Whole House fan flow tested ..... YES NO NA

h. Was a range hood fan installed over gas combustion range per WOM standards ..... YES NO NA

i. Dryer ducts installed to WOM standards ..... YES NO NA

j. Exterior terminations for fans & dryer per WOM standards ..... YES NO NA

Comments: _____

5. Heat System (HS):

a. Was HS replaced ..... YES NO NA

b. If yes, is it to WOM standards ..... YES NO NA

c. If not replaced, did HS receive a C&T ..... YES NO NA

d. If yes, was C&T checklist completed ..... YES NO NA

6. Hot Water System:

a. Was HWS replaced ..... YES NO NA

b. If yes, is it to WOM standards ..... YES NO NA

c. If electric HWS tank, did it receive an insulation blanket ..... YES NO NA

d. Were water pipes insulation wrapped per WOM standards ..... YES NO NA

7. Attic Insulation:

a. Is it installed in a uniform manner ..... YES NO NA

b. Are heated chimney pipes dammed per WOM standards ..... YES NO NA

c. Are there photos of completed insulation dam in client file ..... YES NO NA

d. Is the attic hatch insulated and NOT sealed until after Post inspection ..... YES NO NA

e. Is insulation certificate posted per WOM standards ..... YES NO NA
f. Were depth markers used or bag count for proper blow-in ..... YES NO NA
g. Were baffles installed per WOM standards ..... YES NO NA
Comments: _____

8. Building Envelope Air-Sealing:
a. Was the attic air-sealed prior to new insulation being installed ..... YES NO NA
b. Was the floor air-sealed ..... YES NO NA
c. Was the blower door used to assist in air-sealing ..... YES NO NA
d. If there are cantilever floors were they air-sealed & insulated ..... YES NO NA
Comments: _____

9. Crawl Space (CS) and Basement:
a. Is CS CONDITIONED or UNCONDITIONED space **(Circle one.)**
b. Is ground vapor barrier (GVB) installed per WOM standards ..... YES NO NA
c. If conditioned, was insulation installed at foundation perimeter walls per WOM ..... YES NO NA
d. If conditioned, were rim joists insulated per WOM standards ..... YES NO NA
e. If unconditioned, was floor insulated per WOM standards ..... YES NO NA
f. If unconditioned, were water pipes insulation wrapped per WOM standards ..... YES NO NA
Comments: _____

10. Doors, Windows, Roofs and other measures: *(Photo required for door and window replacements per WOM.)*
a. If doors replaced, were they done to WOM standards: ..... YES NO NA
b. If windows replaced, were they done to WOM standards: ..... YES NO NA
c. Was roof repaired or replaced , was it done to WOM standards: ..... YES NO NA
d. Other WX shell measures _____
Comments: _____

11. Egress items:
a. If egress items installed, were they to WOM standards ..... YES NO NA
Comments: _____

12. Moisture Control:
a. ROOF: Flashings / gutters installed per WOM standards ..... YES NO NA
b. Doors: Flashings installed per WOM standards ..... YES NO NA
c. Crawl space: GVB / sump pumps installed per WOM standards ..... YES NO NA
Comments: _____

13. Energy Efficient items:
a. Were CFL or LED light bulbs and / or fixtures installed ..... YES NO NA
b. Were low flow shower heads installed ..... YES NO NA
c. Were low flow faucet (kitchen and bathroom) aerators installed ..... YES NO NA
d. Were refrigerators metered ..... YES NO NA
e. Was a new refrigerator installed ..... YES NO NA
Comments: _____

14. Close out Documentation:
a. All required RRP, Certified Renovator documents in file (if needed) ..... YES NO NA
b. All required SHPO documents in file (if needed) ..... YES NO NA
c. Materials list with all costs listed (materials, labor, freight, other) ..... YES NO NA
d. Weatherization As-Is with As-Is IOR and Post AK Warm reports ..... YES NO NA
e. All manuals for installed items left with resident ..... YES NO NA
Comments: _____

AHFC Wx Field Monitoring Checklist

House #: _____

Wx Agency: _____ **Accompanied by:** _____

Date: _____ **Job #:** _____ **Client Last Name:** _____

Location or address: _____ **Home description:** _____

Is this house funded by DOE or State?

AHFC Decal: _____ **Year Built:** _____ **Post Inspection Checklist in file? YES or NO**

1. Lead Safe / Certified Renovator

Pre-1978 house: YES or NO

1. Was lead present at above EPA permissible level: **YES or NO**

Comments: _____

_____

2. Funding source of the house: _____
3. All proper RRP – LSW documentation located in the Client file:
   - Firm Certification **YES or NO** Lead Test results **YES or NO**
   - Lead pamphlet signed **YES or NO** Renovate Right Credentials **YES or NO**

2. SHPO

Is the house over 45 years old: *(pre 1973)* **YES or NO**

1. Were proper SHPO documents filed with SHPO for review? **YES or NO**
2. Were SHPO documents and work approved by SHPO representative? **YES or NO**
3. Are SHPO documents in client file? **YES or NO**

Comments: _____

3. Blower Door/AkWarm Testing Numbers:

1. Pre-BD test: _____ Post-BD test: _____ AkWarm report: As-Is _____ Post _____

Comments: _____

4. Ventilation

1. **Did bath fans receive a Flow Test? YES or NO** Fan flow test figure #1 _____

   Method used to determine Whole House Ventilation Requirements. #2 _____
   - Option #1: ASHRAE 62.2 2016 _____
   - Option #2: ventilation chart _____
2. **Ventilation items installed**:

   HRV: _____ Bath fans: _____ Range vents: _____ Other fresh air: _____

Comments: _____

3. **CAZ Testing results:** Pre ____ Post ____ Type & category of heating system ____ Depressurization limits ____

Comments: _____

5. Insulation added to:

Attic: _____ Wall: _____ Floor: _____ Rim Joists: _____ Crawl Space/Found: _____ Basement: _____

Comments: _____

AHFC Wx Field Monitoring Checklist

6. **Airsealed** (foam, weather-strip, other insulation material, etc.): Record Zonal pressure differences

   Attic: _____ Basement/Crawl: _____ Doors/Win: _____ Floor: _____ Outlets: _____ Other: _____

   Comments: _____

7. **Heating System**: (*circle one)*

   Fuel type: _____ C&T: _____ Repaired: **major** or **minor** Replaced: _____

   Comments: _____

8. **Water heater**: *(circle one)*

   Fuel type: _____ C&T: _____ Repaired: **major** or **minor** Replaced: _____

   Comments: _____

9. **Doors**:

   Replaced qty: _____ Repaired qty: _____ Wx stripped: _____ Airsealed: _____

   Comments: _____

10. **Windows**:

    Replaced qty: _____ Repaired qty: _____ Wx stripped: _____ Airsealed: _____

    Comments: _____

11. **Types of Combustion appliances**:

    Stove/range: _____ HWH: _____ Heating sys: _____ Woodstove: _____ Fireplace: _____ Other: _____

    Comments: _____

12. **Health & Safety items installed**:

    CO detectors: _____ Smoke Detectors: _____ Fire ext: _____ Other safe/unsafe cond: _____

    Comments: _____

13. **Other work / repairs completed to**:

    Steps: _____ Floors: _____ Walls: _____ Roofs: _____ Chimneys: _____ Other: _____

    Comments: _____

    _____

14. **Low flow shower spray head**: Installed: **YES or NO**

15. **Refrigerator metered:** **YES or NO** **Installed new refrigerator: YES or NO**

16. **Materials used**:

    Mat'l list provided: _____ Prices listed: _____ Mat'l quality: _____ Install good: _____

    Comments: _____

17. **CFL, LED and/or T8 bulbs installed:**

    CFL _____, LED_____ and/or T8's: _____, throughout house: **YES or NO**

18. **Client Education**:

    Pre class: _____ Post class: _____ Lead Safe: _____

Did all measures meet an SIR of 1? **YES or NO**

Were Health & Safety measures justified? **YES or NO**

Comments: _____

_____

_____

ALASKA QCI INSPECTION FORM

QCI INSPECTOR					Date	
Agency		Job #			Location	
Agency Assessor				Agency Inspector		
Client Status (Circle)	Owner	Renter	LandLord Contribution: $_____		Year Built	
Unit Type (circle)	Single	Duplex	Mobile	Multi Unit	# of Units	# of qualified units

FILE REVIEW

					Comments
1	Funding Source	DOE	LIHEAP	STATE	
2	Total Project Cost	$			
3	Eligibility Determination Present	Pass	Fail	N/A	
4	Assessment Documentation	Pass	Fail	N/A	
5	Scope of Work Documentation	Pass	Fail	N/A	
6	Akwarm As-Is & Post Documentation	Pass	Fail	N/A	
7	Akwarm Improvement Options Report	Pass	Fail	N/A	
8	Scope of Work Justified (H&S, Repair and/or Conservation)	Pass	Fail	N/A	
9	Material List Matches Scope of Work	Pass	Fail	N/A	
10	Lead Paint Notification Documentation	Pass	Fail	N/A	
11	Radon Pamphlet	Pass	Fail	N/A	
12	Asbestos Pamphlet	Pass	Fail	N/A	
13	Mold/ Moisture Assessment	Pass	Fail	N/A	
14	State Historic Preservation Documentation	Pass	Fail	N/A	
15	Confined Space Documentation	Pass	Fail	N/A	
16	Photo Documentation Per WOM	Pass	Fail	N/A	
17	Refrigerator Metered	Pass	Fail	N/A	
18	Client Satisfaction Documentation	Pass	Fail	N/A	
19	Client Signature acknowleding all work completed	Pass	Fail	N/A	

ON-SITE WORK ASSESSMENT

HEATING / WATER HEATING & VENTILATION

					Comments
1	Heating System Replacement	Pass	Fail	N/A	
2	Akwarm BTU Sized If Replaced	Pass	Fail	N/A	
3	Heating System Modification / Tune Up	Pass	Fail	N/A	
4	Heating Distribution Modification	Pass	Fail	N/A	
5	Duct Sealing	Pass	Fail	N/A	
6	Ventilation Installation/ Modification	Pass	Fail	N/A	
7	Set Back Thermostat Installed	Pass	Fail	N/A	
8	Water Heater Replacement	Pass	Fail	N/A	
9	Insulate Water Heater	Pass	Fail	N/A	
10	Pipe Insulation on 1st 6' of Water Heater (Hot & Cold)	Pass	Fail	N/A	
11	Work Meets SWS	Pass	Fail	N/A	
12	Additional Work Required	Pass	Fail	N/A	

ATTIC / SIDEWALL & KNEEWALLS

					Comments
1	Attic Insulation Installed	Pass	Fail	N/A	
2	Attic Air Sealed	Pass	Fail	N/A	
3	Uniform Coverage and Depth per Scope of Work	Pass	Fail	N/A	
4	Chimney Insulation Sheild(s) Installed	Pass	Fail	N/A	
5	Insulation Depth Markers Installed	Pass	Fail	N/A	
6	Electric Junction Boxes Markers Installed	Pass	Fail	N/A	
7	Insulation Certificate Posted	Pass	Fail	N/A	
8	Attic Access Insulated / Air Sealed	Pass	Fail	N/A	
9	Sidewall / Kneewall Insulation Installed	Pass	Fail	N/A	
10	Sidewall / Kneewall Access Insulation Installed	Pass	Fail	N/A	
11	Work Meets SWS	Pass	Fail	N/A	
12	Additional Work Required	Pass	Fail	N/A	

CRAWLSPACE / FOUNDATION

					Comments
1	Rim / Band Joist Insulated	Pass	Fail	N/A	
2	Under Floor / Belly Insulation Installed	Pass	Fail	N/A	

3	Foundation / Perimeter Insulation Installed	Pass	Fail	N/A	
4	Wall Insulation Installed	Pass	Fail	N/A	
5	Ground Vapor Barrier Installed	Pass	Fail	N/A	
6	Work Meets SWS	Pass	Fail	N/A	
7	Additional Work Required	Pass	Fail	N/A	

WINDOWS / DOORS **Comments**

1	Windows Replaced	Pass	Fail	N/A	
2	Doors Replaced	Pass	Fail	N/A	
3	Door Weather-Stripping / Sweeps Installed	Pass	Fail	N/A	
4	Work Meets SWS	Pass	Fail	N/A	
5	Additional Work Required	Pass	Fail	N/A	

OTHER MEASURES **Comments**

1	Energy Efficient Shower Heads Installed	Pass	Fail	N/A	
2	Lighting Replaced - LED or CFL	Pass	Fail	N/A	
3	Refrigerator Replaced	Pass	Fail	N/A	
4	Dryer Vented	Pass	Fail	N/A	
5	Smoke Detectors Installed # installed	Pass	Fail	N/A	
6	Carbon Monoxide Detectors Installed # installed	Pass	Fail	N/A	
7	Fire Extinguisher Installed # installed	Pass	Fail	N/A	
8	Other Work (Not Noted Elsewhere)	Pass	Fail	N/A	
9	Other Work (Not Noted Elsewhere)	Pass	Fail	N/A	
10	Work Meets SWS	Pass	Fail	N/A	
11	Additional Work Required	Pass	Fail	N/A	

DIAGNOSTIC TESTING VERIFICATION **Comments**

1	Blower Door Test	Yes	No	N/A	
2	CAZ Safety Test (State of AK form)	Yes	No	N/A	
3	Hot Water Temperature	Yes	No	N/A	
4	ASHRAE Compliance	Yes	No	N/A	
5	Heating System Efficiency	Yes	No	N/A	
6	Oven CO & Visual Range Top Test	Yes	No	N/A	
7	Raw Fuel Test (Fuel Leak Test)	Yes	No	N/A	
8	Work Meets SWS	Yes	No	N/A	
9	Additional Work Required	Yes	No	N/A	

SUMMARY OF INSPECTION **Comments**

1	Missed Opportunities Identified	Yes	No	
2	**Inspection Outcome**	**Pass**	**Fail**	

Pass indicates the job is complete and QCI inspector verifies all measures have been properly justified and completed per Alaska weatherization operations manual, Alaska field guide & SWS. This unit can be reported as a completion. Fail indicates the job requires additional attention from the Agency and QCI Inspector follow-up required.

Notes/ Comments:

QCI Signature Date

FOLLOW-UP INSPECTION (if applicable)

Re-inspection by QCI inspector required on failed items above. By signing & dating below, QCI inspector is verifing the items that failed above have been remedied and comply with Alaska weatherization operations manual, Alaska field guide & SWS. This unit can be reported as a completion. If the items are not remedied, do not sign below.

QCI Signature Date

Assessment

Line #	SECTION I - CLIENT INFORMATION/ BLOWER DOOR TARGET Job #_____		
1	Client Name & address		
2	Year house was built:		
3	Estimated yearly fuel usage for heating		
4	Pre-test technician name & date		__/__/__
5	Post - test technician name & date		__/__/__
6	Is the client experiencing any problems with the house?		
7	What is the client expecting/hoping weatherization will accomplish?		
8	Does anyone living in the house have asthma or respitory problems?	YES	NO
	If Yes, explain:		
9	A. (# of bedrooms + 1) x15 # of Bedrooms + 1 =_____		_____CFM
	B. # of occupants x 15 # of Occupants_____		_____CFM
	C. Volume x.35/60 Volume _____		_____CFM
	D. Floors above grade: 1 1.5 2 2.5 3 3.5		
	BCF(Varies depending on location) 19.4 16.6 14.7 13.3 12.3 11.5		
	E. Blower door target for airsealing w/o additional ventilation (BCF x > A,B, or C)		_____CFM50
10	Install refrigerator tester (assure to clear memory)		

SECTION II - VISUAL INSPECTION, THERMAL BOUNDARY, HOUSE MEASUREMENTS			
11	Primary source of heat & fuel type		
12	Secondary source of heat & fuel type		
13	Any pollution sources found? (If yes, circle/describe below)	Yes	No
	Mold - Moisture - Carbon Monoxide - Chemicals - Radon - Pets		
	Smokers in the House - Odors - Hobbies - Excessive plants - Humidifiers		
14	# of existing operational smoke alarms?		
15	# of existing operational carbon monoxide detectors?		
16	# of existing operational fire extinguishers?		

SECTION II Continued - **Job #_____**

17	Dryer ducted to the exterior?	Yes	No
Proposed Work:			
18	Bath Fan(s) ducted to the exterior?	Yes	No
Proposed Work:			
19	Rangehood ducted to the exterior?	Yes	No
Proposed Work:			
20	A. Type of foundation/skirting?		
	B. Height of foundation wall?		
	C. Top of foundation wall below, on or above grade? (How much?)		
	D. Insulation type and thickness?		
	E. Is there a ground vapor barrier (document condition)?	Yes	No
Proposed Work:			
21	Rim Joist insulation type, thickness and is it sealed?		
Proposed Work:			

SECTION II Continued - **Job #_____**

22	If exposed floor, insulation type, thickness and spacing (16" or 24")?		
Proposed Work:			
23	A. Type of walls and spacing (16" or 24")?		
	B. Insulation type, thickness and is there a vapor barrier?		
Proposed Work:			
24	A. Type of roof system (cathedral, cold attic…)?		
	B. Ceiling insulation type and thickness?		
	C. Is there a vapor barrier	Yes	No
	D. Are there insulation baffels installed at eaves?	Yes	No
	E. Describe attic/roof venting:		
Proposed Work:			
25	Roofing type and condition?		
Proposed Work:			
Visual inspection Comments:			
26	Fill out the House & Window measurement Data Sheet (one for each story)		

HOUSE & WINDOW MEASUREMENTS

Job # _____

Story _____ Square Feet _____

Ceiling Height_____ Volume _____

Indicate south on map - each story will have a separate house and window measurement sheet

Doors (identify location & swing of door on drawing above)

Number	Location	Rough Opening	Jamb Width	Type of Door	Suggested Work
D1					
D2					
D3					
D4					

Windows (identify location & swing of window on drawing above)

Number	Location	Rough Opening	Egress?	Type and condition (weatherstripping, glass, lockset…)	# of panes	Suggested Work
W1			Yes / No		1 - 2 - 3	
W2			Yes / No		1 - 2 - 3	
W3			Yes / No		1 - 2 - 3	
W4			Yes / No		1 - 2 - 3	
W5			Yes / No		1 - 2 - 3	
W6			Yes / No		1 - 2 - 3	
W7			Yes / No		1 - 2 - 3	
W8			Yes / No		1 - 2 - 3	
W9			Yes / No		1 - 2 - 3	
W10			Yes / No		1 - 2 - 3	

Line #	SECTION III - Blower Door & Pressure Testing	Pre	Post
27	Blower door Location		
28	Outside Temperature		
29	Estimated wind speed (mph)		
30	Starting pressure - house WRT outside (blower door closed) (stack pressure)		
31	Test pressure - house WRT outside (stack pressure minus 50pa)		
32	Blower door configuration: O = Open, A = ring A, B = ring B, C= ring C		
33	Blower door FAN PRESSURE		
34	Cubic Feet per Minute		

Blower Door Comments (If blower door is NOT completed, document the circumstances):

35	**ZONAL PRESSURES (Write N/A if not tested)**	Pre	Post
	Attic WRT House		
	Crawlspace WRT House		
	Garage WRT House		
	Mobile Home Belly WRT House		
	WRT House		
	WRT House		
	WRT House		

36	**PRESSURE PAN TESTING (clockwise from blower door)**					
	Location (note supply or return)	Pre	Post	Location (note supply or return)	Pre	Post
	1-			8-		
	2-			9-		
	3-			10-		
	4-			11-		
	5-			12-		
	6-			13-		
	7-			14-		

37	**HOUSE PRESSURE BALANCING (Clockwise from blower door) Air handler on - Room WRT main body**					
	Room Description	Pre	Post	Room Description	Pre	Post
	1-			7-		
	2-			8-		
	3-			9-		
	4-			10-		
	5-			11-		
	6-			12-		

38	**DEPRESSURIZATION TEST (Complete maximum depressurization data sheet for each combustion appliance)**

Line #	SECTION IV - HEATING SAFETY/EFFICIENCY TEST	Job #_____	
39	**PRIMARY HEAT SYSTEM INSPECTION**		
	Primary heat system manufacturer & model #		
	Burner type & RPM: (1725 -- 3450)		
		Pre	**Post**
	Is there a hazardous or unsafe condition?	Yes / No	Yes / No
	Are there visible signs of vent pipe leaks or damage?	Yes / No	Yes / No
	Are there gas fumes or indications of gas leakage?	Yes / No	Yes / No
	If furnace, does the filter need to be changed? (if no filter, describe below)	Yes / No / NA	N/A
	If furnace, document size of filter		
	If furnace, flame change when the fan comes on?	Yes / No / NA	Yes / No / NA
	Does the heating system spill gases for more than one minute?	Yes / No / NA	Yes / No / NA
	Smoke (oil only)		
	Carbon monoxide in stack		
	Oxygen (O2)		
	Room Temperature		
	Stack Temperature		
	Steady State Efficiency		
	Carbon Dioxide (CO2)		
	Excess Air		
	Draft in vent WRT CAZ		
	Carbon monoxide in CAZ ambient air		
	Heat Rise (supply plenum temp - return plenum temp)		
	Test hole in chimney sealed?	Yes / No	Yes / No
	Proposed Work:		
40	**SECONDARY HEAT SYSTEM INSPECTION**		
	Secondary heat system manufacturer & model #		
	How much is the secondary system used? (%)	**Pre**	**Post**
	Is there a hazardous or unsafe condition?	Yes / No	Yes / No
	Are there visible signs of vent pipe leaks or damage?	Yes / No	Yes / No
	If woodstove, diameter of existing chimney?		
	Are there gas fumes or indications of gas leakage?	Yes / No	Yes / No
	Carbon monoxide in CAZ ambient air		
	Proposed Work:		
	If considering replacement of woodstove; measure wall clearances, floor to ceiling, ceiling to roof, and roof slope		

Line # **SECTION V - WATER HEATING SAFETY/EFFICIENCY TEST** Job #_____

41	**WATER HEATER INSPECTION**		
	Water heater manufacturer & model #		
	Location of water heater?		
		Pre	**Post**
	Is there a hazardous or unsafe condition?	Yes / No	Yes / No
	Is there a pressure/relief valve installed?	Yes / No	Yes / No
	Water heater thermostat setting?		
	Water heater blanket installed?		
	Continue if water heater is gas, propane or oil type		
	Are there visible signs of vent pipe leaks or damage?	Yes / No	Yes / No
	Are there gas fumes or indications of gas leakage?	Yes / No	Yes / No
	Does the water heater spill gases for more than one minute?	Yes / No / NA	Yes / No / NA
	Smoke (oil only)		
	Carbon monoxide in stack		
	Oxygen (O2)		
	Room Temperature		
	Stack Temperature		
	Steady State Efficiency		
	Carbon Dioxide (CO2)		
	Excess Air		
	Draft in vent WRT CAZ		
	Carbon monoxide in CAZ ambient air		
	Proposed Work:		
42	**RANGE/OVEN CARBON MONOXIDE TESTING**		
	Kitchen Range (gas/propane) - Manufacturer & Model#:		
	Test 18" above each burner with pot on burner & in throat of oven - no post test required unless work on range is completed		

	Pre	**Post**		**Pre**	**Post**
Back left burner			Back right burner		
Front left burner			Front right burner		
Oven			Kitchen Ambient Air		

Proposed Work:

Line #	SECTION VI - WATER & ELECTRIC CONSERVATION Job #_____		
43	**WATER CONSERVATION**		
		Pre	**Post**
	Kitchen faucet gpm		
	Shower Head #1 gpm		
	Shower Head #2 gpm		
	Shower Head #3 gpm		
	Bathroom #1 sink faucet gpm		
	Bathroom #2 sink faucet gpm		
	Bathroom #3 sink faucet gpm		
44	**REFRIGERATOR** - Manufacturer, model# & size:		
	Hinges are on which side of the refrigerator	Left	Right
	Approximate age of the fridge		
	Length refrigerator was tested		
	Kilowatts used		
	Average cost per month		
45	**LIGHTING - List bulbs or fixtures suggested to change for conservation**		
	Quantity	Pre-wattage	Average hours on a day	Post-wattage
46	**RETURN HOUSE TO ORIGINAL SET-UP**	**Pre**	**Post**
	Heating system turned on?		
	Thermostat set correctly?		
	Water Heater turned on?		
	Refrigerator turned on?		
	General Notes:		

ADDITIONAL HEAT INSPECTION FORM - ONLY IF NEEDED

HEAT SYSTEM INSPECTION		
Heat system manufacturer & model #		
Burner type & RPM: (1725 -- 3450)		
	Pre	**Post**
Is there a hazardous or unsafe condition?	Yes / No	Yes / No
Are there visible signs of vent pipe leaks or damage?	Yes / No	Yes / No
Are there gas fumes or indications of gas leakage?	Yes / No	Yes / No
If furnace, does the filter need to be changed? (if no filter, describe belov	Yes / No / NA	N/A
If furnace, document size of filter		
If furnace, flame change when the fan comes on?	Yes / No / NA	Yes / No / NA
Does the heating system spill gases for more than one minute?	Yes / No / NA	Yes / No / NA
Smoke (oil only)		
Carbon monoxide in stack		
Oxygen (O2)		
Room Temperature		
Stack Temperature		
Steady State Efficiency		
Carbon Dioxide (CO2)		
Excess Air		
Draft in vent WRT CAZ		
Carbon monoxide in CAZ ambient air		
Heat Rise (supply plenum temp - return plenum temp)		
Test hole in chimney sealed?	Yes / No	Yes / No
Proposed Work:		

Assessment Measures

Heating

Measure	Materials needed					
Boiler	Tune-up	Fuel filter	Parts	Glycol		
Furnace	Tune-up	Fuel filter	Air Filter			
Pot Burner	Toyostove	Goldenrod	Fittings			
Barrel Stove	Wood Stove	S/W pipe				
Single Wall	MB pipe	Top	Flash	Storm Col	Dripless	

Foundation

Measure	Materials needed					
Level	2 x 12 AW	1/2 AW Ply	2 x 6 PT			
Raise	2 x 12 AW	4 x 6 PT	6 x 6 PT	2 x 4 S/B		
Steps	2 x 12 PT	Deck Lattice	2 x 4 PT	2 x 2 PT		

Floor

Measure	Materials needed					
Insulate	Fiberglass	Tyvek	Plywood	Batt hgrs		
Add foam	Styrene	plywood				
Repair	Plywood	Lumber				

Walls

Measure	Materials needed					
Wall Wrap	Siding (8', 9')	1 1/2" styrene	1x4 cedar	Siding Cap	2 x 2 x 8	Z-Metal
Repair	Siding (8', 9')	Ply/paneling	6 mil poly	Fiberglass	3/4 stop	1 x 2

Ceiling

Measure	Materials needed					
Caulk/seal	caulk	batten strips				
Replace	6 mil poly	3/8 AC ply				
Airsealing	caulk					

Attic

Measure	Materials needed					
Insulation	Blowfill	Insulation Shield	Cardboard baffles			
Vents	Gable vent	Ridge vent	Eave vent			

Roof

Measuer	Materials needed					
Repair	Metal roofing	Wet/dry tar				
Replace	Metal roofing	Ridge Cap	Gable Trim	Eave Trim	Roof screws	30# felt
Replace	90# Rolled	Wet/dry tar	Roofing nails			

Windows

Measure	Materials needed					
Repair	Replace glass	crank system	lock latch	shims	caulk	
Replace	Window	1x3 TK cedar	Bevel trim	foam	caulk	

Doors

Measure	Materials needed					
Repair	W/strip	Door shoe	Door brush	Lockset		
Replace	Door	Shims	Bevel trim	foam	caulk	

Ventilation

Measure	Materials needed					
Exhaust	Fresh 80	Panasonic	Dehumid	Dryer vent	Wiremold	

ASTM E 84

Standard test method for surface burning characteristics of of building materials.

The flame spread Index and Smoke Developed Index values obtained by the ASTM E 84 test are used by code officials and regulatory agencies in the acceptance of interior finish materials for various applications. The most widely accepted classification system is described in the National Fire Protection Association publication NFPA 101 *Life Safety Code*

1. 2006 International Building Code

a. Section 803 Wall and Ceiling Finishes, Paragraph 803.1 General states, "Interior wall and ceiling finishes shall be classified in accordance with ASTM E- 84.Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indexes.

i. Class A: Flame Spread 0-25; smoke-developed 0-450

ii. Class B: Flame Spread 26-75; smoke-developed 0-450

iii. Class C: Flame Spread 76-200; smoke-developed 0-450

Class A,B, and C correspond to type I, II, and III respectively in other codes such as SBCCI, BOCA, ICBO. They do not preclude a material being otherwise classified by the authority of jurisdiction.

2. NFPA 101®, Life Safety Code®

a. Chapter 10 Interior Finish, Contents, and Furnishings, Paragraph 10.2.3 Interior Wall or Ceiling Finish Testing and Classification states, "Interior wall or ceiling finish that is required elsewhere in this Code to be Class A, Class B, or Class C shall be classified based on test results from NFPA 255, ASTM E-84, or UL 723."

Insulsafe Fiberglass Blowfill
Bags Required for Attic Applications

To Achieve R-38 Insulation

Insulsafe 4

Existing R-Value	Added R-Value	Bags per 1,000 sq. ft.	Sq ft. per bag	Fill inches
R-0	R-38	22.8	44	14.75
R-11	R-30	18.0	56	12.00
R-19	R-19	11.1	90	7.75
R-30	R-11	6.6	151	4.75

Insulsafe III

Existing R-Value	Added R-Value	Bags per 1,000 sq. ft.	Sq ft. per bag	Fill inches
R-0	R-38	26.6	38	15.50
R-11	R-30	20.8	48	12.50
R-19	R-19	13.2	76	8.25
R-30	R-11	7.4	136	4.75

To Achieve R-49 Insulation

Insulsafe 4

Existing R-Value	Added R-Value	Bags per 1,000 sq. ft.	Sq ft. per bag	Fill inches
R-0	R-49	29.6	34	18.50
R-11	R-38	22.8	44	14.75
R-19	R-30	18.0	56	12.00
R-30	R-19	11.1	90	7.75

Insulsafe III

Existing R-Value	Added R-Value	Bags per 1,000 sq. ft.	Sq ft. per bag	Fill inches
R-0	R-49	34.3	29	19.25
R-11	R-38	26.6	38	15.50
R-19	R-30	20.8	48	12.50
R-30	R-19	13.2	76	8.25

APPENDIX C

ALASKA HOUSING FINANCE CORPORATION

AHFC-BD1.97

BLOWER DOOR TEST

DETERMINING AIR FLOW THROUGH A BUILDING AIRTIGHTNESS BOUNDARY BY THE FAN DEPRESSURIZATION METHOD

August 1, 1997

DETERMINING AIR FLOW THROUGH A BUILDING AIRTIGHTNESS BOUNDARY BY THE FAN DEPRESSURIZATION METHOD

AHFC-BD1.97

ACKNOWLEDGMENTS

This blower door test method is modeled after the Canadian General Standards Board CAN/CGSB-149.10-M86 depressurization method. Although the CAN/CGSB-149.10-M86 method is well used and proven in Alaska, modifications were needed to better fit the Alaska blower door testing conditions and programs. The Alaska Housing Finance Corporation wishes to thank the CGSB for use of their standard as the model from which Alaska=s standard could be developed.

Development of AHFC-BD1.97 was done by the Technical Energy Advisory Committee, Alaska Housing Finance Corporation, August 1997.

DETERMINING AIR FLOW THROUGH A BUILDING AIRTIGHTNESS BOUNDARY BY THE FAN DEPRESSURIZATION METHOD AHFC-BD1.97

1 SCOPE

1.1 This is a method for determining the equivalent leakage area of, and the amount of air flow through, openings in a building=s airtightness boundary under specific, induced air pressures. This method does not determine *actual* air leakage through the airtightness boundary under the natural influences of wind and air buoyancy pressures.

This test can also produce a profile of the building=s air leakage characteristics. These characteristics could then be used to estimate air flow at other specific pressures.

1.2 This method is applicable to all buildings or units where the entire airtightness boundary can be tested with one blower door.

1.3 This test method is commonly called a Ablower door test.≅

1.4 The mathematical principals of AHFC-BD1.97 are identical to those detailed in the CAN/CGSB-149.10-M86 fan depressurization method. Therefore, AHFC-BD1.97 is specifically written to avoid reprinting, in duplicate, the CAN/CGSB-149.10-M86 mathematical methods. Instead, this method refers to the CAN/CGSB method when necessary.

2 PRINCIPLE

A fan or fans are used to exhaust air from the building at rates required to maintain specified pressure differences across the building airtightness boundary to a simultaneous and similarly directed air pressure. The flows are corrected to reference temperature and pressure. The relationship between air flow and corresponding pressure is used to calculate equivalent leakage area and air flow through the building=s airtightness boundary.

3 TERMINOLOGY

3.1 **Air Change per Hour:** is the volume of indoor air exchanged with an equivalent volume of outdoor air each hour, expressed as a whole or fraction of the total volume of indoor air.

3.2 **Airtightness:** is the degree to which unintentional openings in the building=s airtightness boundary have been avoided.

3.3 **Building Airtightness Boundary:** is that plane where interior heated air is separated from, and is intended not to freely flow to, the unheated outdoor environment. Generally, this will include all conditioned spaces.

3.4 **Conditioned space:** is a room or other enclosed space which has the capability to be intentionally heated to a temperature of 50^{o}F or more either directly or indirectly from one or more heating appliances. For example, a space that contains a thermostat, heat distribution source, uninsulated warm air ducts, uninsulated hydronic heating pipes, a furnace, boiler, or water heater should be considered a conditioned space even if the space is not considered living space.

3.5 **EqLA:** is the Equivalent Leakage Area -- the assumption that leakage openings in the building airtightness boundary at a pressure differential of 10 Pa can be combined and represented by a single sharp-edged Aequivalent≅ orifice.

3.6 **Intentional opening:** is an opening in the building envelope deliberately made to fulfill a particular function. For example, heating system flue vents, chimneys, combustion air vents, and crawlspace vents are intentional openings.

3.7 **NLA:** is the Normalized Leakage Area -- expressed as square inches of opening per 100 square feet of building airtightness boundary area.

3.8 **Thermal Envelope:** is the complete (usually insulated) surface area separating conditioned space from unconditioned space.

3.9 **Unconditioned space:** is a room or other enclosed space which is not considered to be Aconditioned≅ space.

Table 1, CAN/CGSB-149.10-M86 provides a list of quantity definitions for those quantity symbols included in this document.

4 EQUIPMENT

4.1 **Fan:** The fan or fans shall have a total air flow capacity capable of producing a pressure difference of at least 50 Pa across the building airtightness boundary or have an air flow capacity of at least 5000 cubic feet per minute.

4.1.2 The fan shall have a variable speed control.

4.1.3 The fan shall have a measured accuracy of ∀5% of actual air flow. A certificate of calibration accuracy for each fan is not required. However, the equipment manufacturer shall include a statement in product literature noting the calibrated accuracy of each specific model of fan.

4.1.4 The fan shall be capable of measuring pressure or air flow at all fan speeds.

4.2 **Pressure-measuring Device:** The pressure-measuring device shall have an accuracy of ∀2 Pa and shall only be operated within its calibration and environmental range.

4.3 **Capillary Tubes:** All capillary tubes connected to the pressure-measuring device shall have the same interior diameter. In addition, all capillary tubes used for pressure averaging shall be of equal length. Pressure averaging tubes may be headered and a single tube connected to the pressure-measuring device.

4.4 **Thermometer(s):** The temperature-measuring device shall measure in degrees Fahrenheit and shall have an accuracy of ∀ 5°F.

4.5 **Door sealing Equipment:** This device shall be used to seal the fan into one of the building=s doorways. It generally consists of a portable, expandable door frame with weatherstripped edges and a fabric that installs around the frame which together is set into the building doorway to seal off the entire door opening. The fabric contains an opening where the fan is set and sealed into the complete assembly.

5 LABORATORY CALIBRATION OF EQUIPMENT

The fan, pressure-measuring device, and thermometers shall be calibrated by the manufacturer. When a major component of the fan, pressure-measuring device, or thermometers are replaced, that device shall be recalibrated by the manufacturer. Recalibrate any equipment when it appears to have been damaged. All equipment should be recalibrated at intervals recommended by the manufacturer.

6 DETERMINING THE BUILDING=S AIRTIGHTNESS BOUNDARY

6.1 This blower door test method requires a calculation of the building=s total airtightness boundary area and its corresponding conditioned volume.

6.2 Usually, a building=s airtightness boundary aligns with its thermal envelope. For example, the interior surface of exterior walls, ceilings, and floors, and the ground of a heated crawlspace will generally make up the complete air tightness boundary of the building. In some cases, however, the airtightness boundary being tested may not align with the thermal envelope. A determination must be made in the field as to the location and extent of the airtightness boundary for each test routine.

7 DETERMINING THE INTERIOR VOLUME OF THE BUILDING

Determine the total interior volume enclosed by the building=s airtightness boundary specific to each of the three test routines below. Do not reduce the volume for such things as interior partition walls, floors between conditioned spaces, cabinets, furniture, equipment, plumbing fixtures, and so on.

8 TEST ROUTINES

8.1 Test 1 Airtightness of All Conditioned Space

a. For buildings that include an attached, conditioned garage: close the auto overhead door and open the garage-to-building man door.
b. For buildings that include a conditioned crawlspace: open the crawlspace access door and close crawlspace vents.
c. For all buildings: follow the building preparation checklist given in Table 1.

8.2 Test 2 Airtightness of Living Space

a. For buildings that include an attached, conditioned garage: open the auto overhead door and close the garage-to-building man door.
b. For buildings that include a conditioned crawlspace: close the crawlspace access door and open crawlspace vents.
c. For all buildings: follow the building preparation checklist given in Table 1.

8.3 Test 3 Airtightness Under Normal Operating Conditions

a For buildings that include an attached, conditioned garage: close the auto overhead door and close the garage-to-building man door.
b. For buildings that include a conditioned crawlspace: close the crawlspace access door and leave crawlspace vents as found upon arrival.
c. For all buildings: follow the building preparation checklist given in Table 1 except that all heating appliance flue vents and combustion air openings shall be left in their natural operating position.

9. SET-UP PROCEDURES

9.1 Equipment Set-up and Building Preparation

9.1.1 Measure and record the outdoor air temperature, t_o, and the indoor air temperature, t_i.

9.1.2 Include in the test all conditioned space described in Paragraph 3.4 and any other space as required for each test described in Section 8.

9.1.3 Switch off all fuel combustion equipment, furnace blower fans, exhaust fans, vented clothes dryers,

room air circulation fans, humidifiers, and air conditioners.

9.1.4 Prepare intentional openings as detailed in Table 1 and Paragraph 8.3.

9.1.5 Remove or cover ashes in fireplaces and wood stoves. Check chimneys and fuel combustion equipment vents for excessive soot and do not perform the test if soot is likely to enter the building.

9.1.6 Open all interior doors to spaces included in the test.

9.1.7 Pressure averaging shall be required whenever wind speed at the site renders the pressure-measuring device incapable of producing stable pressures. Pressure averaging shall be accomplished using capillary tubes set according to Paragraph 4.3 and Figures 2 and 3 in CAN/CGSB-149.10-M86.

9.1.8 Install the fan and door sealing equipment such that air will be exhausted from the building. Ensure that no obstruction is placed within three feet in front of the door frame and cover assembly. Ensure that the outflow side of the fan has a clear and unobstructed air flow path.

9.2 **Routine Inspection**

After setting up the test equipment, take the following steps to check the equipment and building setup.

9.2.1 Visually inspect all test equipment for physical defects.

9.2.2 Ensure the pressure taps of the pressure-measuring device are out of the direct path of fan air flows.

9.2.3 Visually inspect for proper installation of all equipment in accordance with manufacturer=s specifications.

9.2.4 Ensure devices which require leveling (for example, magnahelic gauges) are correctly installed.

9.2.5 Ensure the blower door frame and cover is set into the building door frame as required. Ensure the fan is also set into the blower door frame and cover assembly as required.

9.2.6 When the building to be tested has walls, ceilings, or floors common with spaces that are not included in the test, make provision to ensure those spaces remain as close to outdoor pressure as possible throughout the test. In other words, open a door or window of that space to the outside when possible.

9.2.7 For fireplace chimneys without a damper, perform the test with no chimney sealing unless the air flow is so large that the test cannot be performed. In this case, seal the chimney and report this matter as a deviation from usual test procedures (see test report Paragraph 14.1)..

10 TEST PROCEDURES

10.1 After equipment has been setup, seal the fan such that no air flows through the fan at this time.

10.2 Zeroing the Pressure-Measuring Device (fan off):

a. Magnahelic

1. Attach one end of a capillary tube to the high pressure tap of the indoor/outdoor Abuilding≅ magnahelic. Place the opposite end of this tube outdoors. Now zero the magnahelic.
2. Attach one end of a capillary tube to the low pressure tap of the Afan≅ magnahelic and lay the other end of the tube on the floor. Zero the magnahelic. Now attach the floor end of the tube to the measuring tap on the fan.

b. Self-zeroing digital pressure-measuring device

1. Attach a capillary tube to the Areference≅ tap on the Abuilding≅ side of the digital device and place the other end outdoors. Leave the Ainput≅ tap open. Record the existing Afan off≅ pressure difference (if any) between indoors and outdoors and adjust all indoor/outdoor pressure readings thereafter to compensate for a possible non-zero start.
2. Attach a capillary tube to the Ainput≅ tap on the Afan≅ side of the digital device and attach the other end to the measuring tap on the fan. Leave the Areference≅ tap open. No adjustment is necessary for fan flow measurements.

10.3 Remove the seal on the fan and switch the fan on.

10.4 Adjust fan speed to produce an indoor/outdoor pressure difference, $\in P_m$, of 25 to 30 Pa. Now recheck to ensure the building setup has not changed.

10.5 Adjust fan speed to produce a $\in P_m$ of at least 50 Pa but no more than 70 Pa across the building airtightness boundary. If $\in P_m$ 50 Pa is not possible, follow equipment manufacturer=s procedure for adjusting the maximum achievable fan pressure.

Caution: Some spaces included in the test may have materials such exposed polyethylene, ceiling tile, and some kinds of plastic lens for recessed light fixtures that will collapse if exposed to the direct pressure of the fan. When this situation is encountered, use a reduced maximum $\in P_m$ or relieve the pressure across the material.

10.6 When conditions have stabilized across the building envelope, measure and record the $\in P_m$ and the corresponding fan pressure difference, in Pa.

10.7 For tests 1 and 2 reduce fan speed by approximately 5 to 10 Pa . When conditions have stabilized across the building envelope, measure and record this $\in P_m$ and corresponding fan pressure. Repeat until at least 3 $\in P_m$ recordings are taken.

10.8 For test 3, only one $\in P_m$, at 50 Pa, is required.

11 VERIFICATION OF DATA

11.1 If using a self-zeroing digital pressure-measuring device, correct the $\in P_m$ readings in the following manner:

a. If the initial fan-off $\in P_m$ was negative, then subtract this amount of pressure from the tested pressure differential. For example, if the initial $\in P_m$ was -2 Pa and the tested pressure was -50 Pa, the final *adjusted* pressure would be -48 Pa.

b. If the initial fan-off $\in P_m$ was positive, then add this amount of pressure to the tested pressure differential. For example, if the initial pressure was +2 Pa and the tested pressure was -50 Pa, the final *adjusted* pressure would be -52 Pa.

c. Use absolute values for all fan-on readings described in subparagraphs a and b above.

11.2 Using the corrected $\in P_m$ from Paragraph 11.1 determine the following in accordance with Appendix C of the CAN/CGSB-149.10-M86:

a. the regression coefficients (C and n) and the correlation coefficient (r) of the fit of the data;
b. the percentage difference between the estimated air flow, Q_I and the measured air flow Q_i at each measured pressure difference $\in P_i$.

11.3 Repeat the entire test if any of the following conditions are not met:

a. $0.50 \leq n \leq 1.0$
b. $r > 0.990$
c. $\left| \frac{\hat{Q}_i - Q_i}{Q_i} \right| < 0.06$ for all i

12 COMPLETION OF THE TEST

After the test::

a. remove all air seals applied in accordance with Table 1;
b. reopen dampers as necessary;
c. relight all gas pilot lights that were on prior to the test;
d. return the building and all its components to the position(s) encountered before preparing the building for the test.

13 CALCULATIONS

13.1 General Description: This method gives an Equivalent Leakage Area (EqLA), a Normalized Leakage Area (NLA), a C_r value, and an air flow rate which are constant for all test ambient conditions.

$\in$P, C_r and Q_r are defined as follows:

$\in$P is the *corrected* pressure difference across the building airtightness boundary, in units of Pa.
C_r is a constant used to determine Q_r.
Q_r is a constant used to determine EqLA.

13.2 Correction of Air Flow Readings: Air flow readings shall be corrected in a manner similar to Paragraph 11.1.

13.3 Determination of Correlation Coefficient: See Appendix C of the CAN/CGSB-149.10-M86.

13.4 Calculation of Equivalent Leakage Area (EqLA)*

$$EqLA = 0.001157\ \pi\rho_r \times C_r \times 10^{n-0.5} \times 1396.524$$

Where: EqLA is in inches squared

* See Paragraph 7.7 of the CAN/CGSB-149.10-M86.

13.5 Calculation of Normalized Leakage Area (NLA)

To calculate NLA, use the following equation:

$$NLA = \frac{EqLA}{\text{Area of the Building Envelope}} \times 100$$

where: NLA is in units of in^2 per 100 ft^2
EqLA is in units of in^2
Area of the building envelope is in units of ft^2

13.6 Calculation of Air Changes Per Hour At 50 Pa

To calculate air changes per hour at $\in P_m$ of 50 Pascals, use the following equation:

$$ACH_{50} = \frac{\text{Volume}}{CFM_{50} \times 60}$$

where: ACH_{50} is air changes per hour at 50 Pa
Volume is the interior volume described in section 7, in ft^3

CFM_{50} is the rate of air flow through the fan at $\in P_m$ of 50 Pascals, in ft^3 per minute
60 is a factor to convert cubic feet per minute to cubic feet per hour

14 TEST REPORT

14.1 The test report shall include the following information:

a. The name and address of the company which conducted the test;
b. The name of the tester;
c. The address of the building under test;
d. The date of test;
e. The indoor and outdoor temperatures, in degrees Fahrenheit;
f. Wind speed, in mph;
g. A description of the building style/type;
h. The area of the building airtightness boundary, in square feet;
I. The interior volume of the building, in cubic feet;

j. The original measured data of $\in P_m$ and corresponding fan pressure, in Pascals;

k. The corrected data for each $\in P_m$ (when using a digital pressure-measuring device), in Pascals;
l. Values for C_r and n;
m. The determined correlation coefficient, r;
n. The equivalent leakage area (EqLA), in square inches
o. The calculated NLA;
p. Any deviation from the method prescribed.

14.2 It is recommended that the test report also include the following:

a. A sketch floor plan of the building showing locations of pressure averaging taps, if used, and dimensions of the building=s airtightness boundaries including length, width, and height;

b. A plot of air flow, in cfm, versus the corresponding $\in P_m$ on a log-log graph to produce the building=s air leakage characteristics.
c. Submit testing results as produced by either a field-use computer or office based computer.

TABLE 1
BUILDING PREPARATIONS FOR AIRTIGHTNESS TEST

DESCRIPTION	PREPARATION		RESTORATION	
		check all that apply		
Fireplace				
with flue damper	close	_____	open	_____
without flue damper	seal	_____	unseal	_____
	no prep	_____		
combustion air supply damper	close	_____	open	_____
fireplace doors	close	_____		
ashes	cover/remove	_____	uncover	_____
Wood Stove				
flue damper control (if provided)	close	_____	open	_____
combustion air supply damper	close	_____	open	_____
wood stove doors	close	_____	open	_____
ashes	cover/remove	_____	uncover	_____
Furnace within airtightness boundary				
furnace room doors	open	_____	close	_____
gravity vent (open flue)	seal	_____	unseal	_____
barometric damper (oil-fired furnace)	seal	_____	unseal	_____
combustion air ducts	seal	_____	unseal	_____
power	turn off	_____	turn on	_____
pilot light	no prep	_____	ensure on	_____
Boiler within airtightness boundary				
boiler room doors	open	_____	close	_____
gravity vent (open flue)	seal	_____	unseal	_____
barometric damper (oil-fired boiler)	seal	_____	unseal	_____
combustion air ducts	seal	_____	unseal	_____
power	turn off	_____	turn on	_____
pilot light	no prep	_____	ensure on	_____
Airtight mechanical room within airtightness boundary	no prep	_____		
Space or unit heater within airtightness boundary				
gravity vent (open flue)	seal	_____	unseal	_____
combustion air ducts	seal	_____	unseal	_____
power	turn off	_____	turn on	_____
pilot light	no prep	_____	ensure on	_____
Water heater within airtightness boundary				
gravity vent (open flue)	seal	_____	unseal	_____
thermostat	turn down	_____	turn up	_____
power	turn off	_____	turn on	_____
pilot light	no prep	_____	ensure on	_____
Heating duct registers and grilles				
supply and return air registers	no prep	_____		
Ventilation air system				
HRV: outside air supply/exhaust	seal	_____	unseal	_____
bath fans and kitchen range fan	no prep	_____		
motorized makeup air duct	seal/no prep	_____	unseal	_____
Floor drains/plumbing traps	fill with water	_____		
Clothes dryer exhaust duct (with dryer)	no prep	_____		
Clothes dryer exhaust duct, (no dryer)	seal	_____		
Clothes washer wall drain	fill w/ water	_____		
Exterior windows & doors	close & lock	_____		
Interior doors (including closets)	open	_____	reset	_____

Alaska Weatherization Assistance Program
Alaska Housing Finance Corporation

CLIMATE/BUILDING FACTORS FOR ESTIMATING NATURAL AIR LEAKAGE							
To determine the CFM @50 divide by number, select the city or the closest one to it. Use the chart to find the appropriate Climate/building number using the number of stories and wind shelter factor for that home.							
Ambler			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	19.5	16.4	14.4	13.1	12	11.2	10.6
Average	16.3	14.2	12.7	11.7	10.8	10.2	9.6
Unshielded	15.1	13.2	11.9	11	10.2	9.7	9.2
Anchorage			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23	19.2	16.9	15.3	14	13.1	12.3
Average	19.7	17	15.2	13.9	12.9	12.1	11.4
Unshielded	18.4	16	14.4	13.2	12.3	11.5	10.9
Aniak			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.5	18	15.7	14.2	13	12.1	11.4
Average	19.2	16.4	14.6	13.3	12.3	11.5	10.8
Unshielded	18.2	15.6	14	12.8	11.8	11.1	10.5
Bethel			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	18.5	15.8	14	12.8	11.8	11	10.4
Average	14.1	12.5	11.4	10.5	9.9	9.4	8.9
Unshielded	12.6	11.2	10.3	9.6	9.1	8.6	8.2
Dillingham			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.5	18.1	16	14.5	13.4	12.5	11.7
Average	17.6	15.3	13.8	12.7	11.9	11.2	10.6
Unshielded	16.1	14.1	12.8	11.9	11.1	10.5	10

Eagle River			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.2	19.4	17.1	15.4	14.2	13.2	12.4
Average	19.9	17.1	15.3	14	13	12.2	11.5
Unshielded	18.5	16.1	14.5	13.3	12.4	11.6	11
Fairbanks			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.6	18	15.8	14.2	13.1	12.1	11.4
Average	19.4	16.6	14.7	13.3	12.3	11.5	10.8
Unshielded	18.5	15.9	14.1	12.9	11.9	11.2	10.5
Fort Yukon			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	19.3	16.2	14.2	12.9	11.8	11	10.4
Average	16.5	14.2	12.7	11.6	10.8	10.1	9.6
Unshielded	15.4	13.4	12	11	10.3	9.7	9.2
Galena			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.1	17.5	15.4	13.8	12.7	11.8	11.1
Average	19.2	16.3	14.4	13.1	12.1	11.3	10.6
Unshielded	18.4	15.7	13.9	12.7	11.7	11	10.4
Haines			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.7	20	17.7	16	14.8	13.8	13
Average	19.1	16.7	15.1	13.9	13	12.2	11.6
Unshielded	17.4	15.4	14	12.9	12.1	11.5	10.9
Healy			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	20.2	17.1	15.1	13.8	12.7	11.9	11.2
Average	16	14	12.7	11.7	10.9	10.3	9.8
Unshielded	14.5	12.8	11.7	10.8	10.2	9.6	9.2

Holy Cross			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.7	18.1	15.8	14.3	13.1	12.2	11.5
Average	19.3	16.5	14.7	13.3	12.3	11.5	10.9
Unshielded	18.2	15.7	14	12.8	11.9	11.1	10.5
Homer			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	22.8	19.1	16.8	15.2	14	13.1	12.3
Average	19.3	16.7	15	13.7	12.7	12	11.3
Unshielded	17.9	15.6	14.1	13	12.1	11.4	10.8
Juneau, Airport			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.4	19.7	17.4	15.8	14.5	13.5	12.7
Average	19.1	16.6	15	13.8	12.9	12.1	11.5
Unshielded	17.4	15.3	13.9	12.9	12.1	11.4	10.8
Juneau, City of			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	24.3	20.5	18.1	16.5	15.2	14.2	13.3
Average	19.6	17.1	15.5	14.3	13.3	12.5	11.9
Unshielded	17.8	15.7	14.3	13.3	12.4	11.7	11.2
Ketchikan			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.3	19.9	17.7	16.2	15	14	13.3
Average	17.3	15.4	14.1	13.1	12.3	11.7	11.2
Unshielded	15.4	13.8	12.7	11.9	11.2	10.7	10.2
King Salmon			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	20.2	17.1	15.2	13.8	12.7	11.9	11.2
Average	15.8	13.9	12.6	11.7	10.9	10.3	9.8
Unshielded	14.3	12.7	11.6	10.8	10.1	9.6	9.2

Kodiak			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.8	18.6	16.5	15	13.9	13	12.3
Average	16.6	14.7	13.4	12.4	11.7	11	10.5
Unshielded	14.8	13.3	12.2	11.3	10.7	10.2	9.7
Kotzebue			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	17.4	14.7	13.1	11.9	11	10.3	9.7
Average	13.4	11.8	10.8	10	9.3	8.8	8.4
Unshielded	12	10.7	9.8	9.1	8.6	8.2	7.8
McGrath			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.4	17.8	15.6	14	12.9	12	11.2
Average	19.6	16.6	14.7	13.3	12.3	11.5	10.8
Unshielded	18.7	16	14.2	12.9	11.9	11.2	10.5
Nenana			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.3	17.8	15.6	14.1	12.9	12	11.3
Average	19	16.2	14.4	13.1	12.1	11.3	10.7
Unshielded	18	15.5	13.8	12.6	11.7	11	10.3
Nome			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	19	16	14.2	12.8	11.9	11.1	10.4
Average	15.3	13.4	12.1	11.1	10.4	9.8	9.3
Unshielded	13.9	12.3	11.2	10.3	9.7	9.2	8.7
North Pole			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	20.9	17.4	15.2	13.7	12.6	11.7	11
Average	19.1	16.2	14.3	13	12	11.2	10.5
Unshielded	18.2	15.6	13.8	12.6	11.6	10.9	10.3

Palmer			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.6	18.2	16.1	14.6	13.4	12.5	11.8
Average	17.5	15.3	13.8	12.7	11.8	11.2	10.6
Unshielded	16	14.1	12.8	11.8	11.1	10.5	10
Savoonga			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	15.5	13.3	11.9	11	10.2	9.6	9.1
Average	10.9	9.8	9	8.5	8	7.6	7.3
Unshielded	9.6	8.7	8	7.5	7.2	6.8	6.6
Seward			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	25.2	20.9	18.3	16.5	15.1	14.1	13.2
Average	23	19.5	17.3	15.7	14.4	13.5	12.7
Unshielded	22	18.8	16.7	15.2	14	13.1	12.4
Sitka			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	26	21.8	19.2	17.3	15.9	14.8	13.9
Average	22.3	19.2	17.2	15.7	14.6	13.7	12.9
Unshielded	20.7	18	16.2	14.9	13.9	13.1	12.4
Tok			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	19.1	16	14.1	12.8	11.8	11	10.3
Average	15.9	13.8	12.4	11.4	10.6	9.9	9.4
Unshielded	14.7	12.9	11.6	10.7	10	9.4	8.9
Unalakleet			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	18.3	15.5	13.8	12.5	11.6	10.9	10.2
Average	14	12.4	11.3	10.4	9.8	9.3	8.8
Unshielded	12.5	11.2	10.2	9.5	9	8.5	8.2

Unalaska			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21	17.9	16	14.6	13.5	12.6	11.9
Average	15.6	13.8	12.7	11.8	11.1	10.5	10
Unshielded	13.8	12.4	11.4	10.7	10.1	9.6	9.2
Valdez			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	21.9	18.5	16.4	14.9	13.7	12.8	12.1
Average	17.3	15.2	13.8	12.7	11.9	11.2	10.7
Unshielded	15.6	13.9	12.7	11.7	11	10.4	10
Wasilla			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.1	19.4	17	15.4	14.1	13.2	12.4
Average	20	17.2	15.4	14	13	12.2	11.5
Unshielded	18.7	16.2	14.6	13.4	12.4	11.7	11.1
Yakutat			Number of Stories				
Wind Shelter	1	1.5	2	2.5	3	3.5	4
Shielded	23.5	19.7	17.4	15.7	14.4	13.5	12.6
Average	19.9	17.2	15.4	14.1	13.1	12.3	11.7
Unshielded	18.4	16.1	14.5	13.3	12.4	11.7	11.1

Certificate of Insulation
Post in Insulated Area

Resident Address _____ Date Installed _____

Installed by:

Number of bags _____ (attach empty bag in attic) Final R-value _____

Area of space insulated _____square Ft. Signed: _____

Certificate of Insulation
Owner Copy

Resident Address _____ Date Installed _____

Installed by:

Number of bags _____ (attach empty bag in attic) Final R-value _____

Area of space insulated _____square Ft. Signed: _____

Certificate of Insulation
Office/Client File Copy

Resident Address _____ Date Installed _____

Installed by:

Number of bags _____ (attach empty bag in attic) Final R-value _____

Area of space insulated _____square Ft. Signed: _____

Combustion Safety Test Form

3/1/2019
BPI1200

Alaska Housing Finance Corporation

				PRE		POST
	Client		Date			
	Job #		Technician Name			

1	**START test equipment outside the building- turn on Combustion Analyzer, CGD (gas sniffer), & 4 Gas Monitor ✓ CO and LEL for safe levels**						
2	**Natural Gas and LP Piping Leakage Testing**	PRE	POST				
2a	Leaks Detected?						
2b	Leak(s) confirmed using leak detection fluid						
3	**Identification of Appliances**						
3a	**Appliance name:**	**1:**		**2:**			
4	**Visual Inspection of CAZ for Unsafe Conditions**	PRE	POST		PRE	POST	
4a	CAZ free of flammable products						
4b	CAZ free of combustibles (rags, paper in the immediate area of appliance)						
4c	Water heater in garage is 18" above the floor or FVIR listed						
4d	Combustion appliance vent type? Meet clearance?						
	Comments:						
5	**Setting up CAZ in worst case**	PRE	POST		PRE	POST	
5a	***Record*** baseline pressure in CAZ WRT outside						
5b	***Turn on*** EXHAUST equipment ONLY & ***Record*** pressure WRT outside						
5c	***Turn on*** Forced air blower & ***Record*** pressure WRT outside						
	If CAZ more negative with blower on, ***leave on.*** *If CAZ more positive,* ***turn blower off*** *for the rest of the test*						
5d	***Close*** CAZ door & ***Record*** pressure in the CAZ WRT outside						
5e	***Open*** CAZ door & ***Record*** pressure in the CAZ WRT outside						
	Test house *with the largest negative pressure in the CAZ based upon test results above*						
6	**CO & SPILLAGE Assessment** (Single Vent)	PRE	POST		PRE	POST	
6a	***Record*** ambient CO BEFORE test starts ***then start appliance***						
6b	Did the appliance spill at 2 minutes of main burner operation?						
6c	***Record CO AIR FREE*** of undiluted flue gases at 5 minutes						
6d	***Record*** ambient CO AFTER test						
7	**CO & SPILLAGE Assessment** (Common Vent **ONLY**)	PRE	POST		PRE	POST	
7a	***Record*** ambient CO BEFORE test starts ***then start appliance(s)***						
7b	Spillage FIRST appliance (***Test*** at 2 minutes after second appliance)						
7c	Spillage SECOND appliance (***Test*** at 2 minute mark)						
7d	***Record CO AIR FREE*** of undiluted flue gases at 5 minutes						
7e	***Record*** ambient CO AFTER test						
8	**CO Assessment-Furnace ONLY** (**WITHOUT** draft hood or barometric damper)	PRE	POST		PRE	POST	
8a	***Record CO AIR FREE*** of undiluted flue gases at 5 minutes						
8b	***Record*** ambient CO AFTER test						
9	**Natural Gas and LP Oven Testing**	PRE	POST		PRE	POST	
9a	***Conduct visual inspection:*** oven & range burner cleanliness & any stored material						
9b	***Record CO AS MEASURED*** of undiluted flue gases at 5 minutes						
9c	***Record*** ambient CO AFTER oven test						
10	**Woodstove/Fireplace (FPWSZ)**	PRE	POST		PRE	POST	
10a	***Measure & Record*** FPWSZ pressure WRT outside						
10b	Vent pipe, chimney, or clearance problems observed (note in margin below)						

Install CO detectors before weatherization work begins

COMBUSTION SAFETY TEST FORM REFERENCE TABLES

Vent Categorization Per NFPA 54

(line 3)

Category I: *NFGC*		**AFUE 65-83%**
Non-Condensing	**Typical Materials**	**Clearance**
Negative Pressure (-)	B-vent	1"
High Temperature Flue Gases	Single wall metal	9"
Natural or Fan Assisted Drafts	L-vent	6"
	Lined Masonry	no extra

Category III: *Airtight*		**AFUE 78-87%**
Non-Condensing	**Typical Materials**	**Clearance**
Positive Pressure (+)	Sealed metal	NA
High Temperature Flue Gases	Sealed plastics	NA
Fan Assisted Draft	per manufacturer	

Category II: *Corrosion Resistent*		**<<Rare>>**
Condensing	**Typical Materials**	**Clearance**
Negative Pressure (-)	Special	as needed
Low Temperature Flue Gases	as designated by manufacturer	

Category IV: *Airtight & Corrosion Resistent*		**AFUE 90%+**
Condensing	**Typical Materials**	**Clearance**
Positive Pressure (+)	Sealed plastics	NA
Low Temperature Flue Gases	per manufacturer specification	
Sealed Combustion		

ANNEX D (BPI-1200) ACTION LEVELS FOR SPILLAGE AND CO IN COMBUSTION APPLIANCES

(line 6)

Test Results	Action Required
Greater CAZ depressurization occurs with the air handler on *	**CONDUCT** further analysis of the distribution system to determine if leaky ducts or other HVAC induced imbalances are the cause of the spillage. **Specify measures** to mitigate CAZ depressurization.
Greater CAZ depressurization occurs with door to CAZ closed, but is alleviated when the door to CAZ is open *	Specify measures to improve air transfer between the CAZ and the core of the house.
Spillage traced to excessive exhaust ** independent of CAZ door position, air handler, or a problem with the flue +	**VERIFY** sufficient combustion air is available per ANSI Z223.1/NFPA 54 for gas-fired appliances & NFPA 31 for oil fired appliances or have verification by a qualified professional **Specify** further evaluate/service by professional to address venting/combustion air issue

* In the case where both spillage and excessive CO are present, in addition to the specific directions above, **Specify** that the appliance be shut down until it can be serviced by a qualified professional.

** Refers to exhaust caused by mechanical ventilation and/or other means of exfiltration.

+ When a recommendation to replace atmospherically vented combustion equipment inside the pressure boundry is made, and when cost-effective, Specify replacement with direct or power vented equipment (or non-combustion equipment, such as a heat pump), which is ENERGY STAR© labeled.

CO ACTION LEVELS (& LEL)

(lines 1,6,7,&9)

CO Levels 70 ppm and GREATER *
1. Immediately TERMINATE inspection
2. Notify occupants to evacuate the building
3. Notify emergency services from outside building
CO Levels 36 ppm - 69 ppm
1. Notify occupants of elevated levels
2. Open windows and doors
3. RECOMMEND to the occupant that a possible source of CO be turned off immediately
4. RECOMMEND occupants contact qualified professional to service permanently installed appliance
CO Levels 9 ppm - 35 ppm
1. Notify occupants that CO has been detected
2. RECOMMEND to open doors and windows
3. RECOMMEND checking possible sources of CO
4. Recommend occupants contact qualified professional to service permanently installed appliance
CO Levels BELOW 9 ppm
1. Do nothing

***** Actions also required if LEL ≥ 10%**

CO THRESHOLDS for Fossil-Fuel Fired Combustion Appliances

(lines 6,7,&9)

Appliance	Threshold Limit**
Central furnace (all categories)	400 ppm air free
Boiler	400 ppm air free
Floor Furnace	400 ppm air free
Gravity Furnace	400 ppm air free
Wall Furnace (BIV)	200 ppm air free
Wall Furnace (Direct Vent)	400 ppm air free
Vented Room Heater	200 ppm air free
Unvented Room Heater	200 ppm air free
Water Heater	200 ppm air free
Oven/Broiler	225 ppm AS MEASURED

Action Level
If CO level above threshold-notify client and recommend service

Daily In-Progress Combustion Safety Test Form

3/1/19

BPI1200

Client		Work Dates					
Job #		Test Technician					

Designate Combustion Appliances to be spillage tested by work crew at end of work day

TEST		Appliance	Location
	App 1:		
	App 2:		

Confirm CO Detectors are in place and operational	yes / no	**If no install**

Set up CAZ in Worst Case Depressurization

1	Place all combustion appliances located within the CAZ in their standby mode and prepare for operation
2	Set up manometer CAZ WRT Outside
3	Fires in woodstoves and/or fireplaces shall be fully extinguished, dampers closed
4	Close all building exterior doors and windows
5	Close all CAZ doors. *Close the interior doors of all rooms except for rooms with an exhaust fan and rooms* ν
6	Turn on exhaust equipment: clothes dryers, range hoods, and other exhaust fans.
7	Turn on central forced air blower, *if CAZ goes more negative with blower on leave on , more positive turn off*
8	Open the CAZ door, if CAZ goes more negative leave open, if not leave closed

9	**Turn on Appliance**	Day One		Day Two		Day Three	
		App 1	App 2	App 1	App 2	App 1	App 2
10	Did the equipment spill gasses for more than 2 min	yes / no	yes / no	yes / no	yes / no	yes / no	yes / no

If answer is "yes," ACTION is required.

Action

	Document ACTIONS Taken	**√ Done**		**Initials**	**Date**
	Call Assessor for direction if spillage test fails				
OR	Do one or more of the following to mitigate issue for interim				
	Reduce depressurization		Note:		
	Disable/Disengage fan that is creating problem:				
	Tape switch in Off position				
	Other:				
	Ventilate		Note:		
	Provide makeup air for interim				
	Open window:				
	Other:				
	Inform Client of ACTION(s) taken (temporary)	Client signature - received education			
	Educate Client on steps to take (or not) to remain safe				
	Re-test and Document after taking mitigation actions:				

Notes:

Common Materials

Quantitiy to order	Description	Calculation
	Cedar Shims	1 bundle per 10 doors
	Woodlife Preservative	1 gal per 100 2 x 12s
	Staples, T-50, 3/8"	.1 per house
	Staples, Electric	1 box per village
	Staples, Phone T-37	1 box per 12 wall wrap
	Nails, Teco	.2 lb per strap
	Button Head Nails, 2 1/2"	.05 per 1 1/2" foamboard
	Button Head Nails, 3"	.05 per 2" T-Max
	Senco N-21 Staples, 2"	1 box per village
	Senco Finish Nails, 1 1/2"	.1 per house
	Senco Nails, Galv 12d	.1 per foundation
	Senco Nails, Stainless 12 d	1/2 box per foundation
	Senco Nails, RH Siding 16d	50 per sheet siding (3000/bx)
	Screws, 1 1/4"	.5 lb per house
	Screws, 1 5/8"	.2 lb per house
	Screws, 3"	.15 per door & styrene
	Screws, 4"	.1 lb per house
	Screws, 6/32 Machine	1 box per village
	Screws, #6 x 58" Tech Point	2 boxes per village
	Roofing Tar, 10.3 oz tube	1/4 per house
	Tape,1/2" Electrical	1 roll per 10 houses
	Tape, 1" Masking	2 rolls per village
	Tape, 2" Duct	2 rolls per village
	Tape, 2" Metal	2 rolls per village
	Caulk, Latex	3 tubes per house
	Caulk, Polyurethane	3 tubes per house
	Caulk, Hi-Temp	1 tube per 10 houses
	Caulk, butyl putty tape (windows)	2.5 windows per roll
	Caulk, Flex (windows)	1 per window
	WD 40	1 can per 6 houses
	Insulfoam	2 cans per house
	Insulfoam Cleaner	1 can per 23 insulfoam
	Duct mastic, RCD #6 (gal)	1 gal per 3 duct systems
	Pipe Joint Compound	1 per village
	Teflon Tape	1 per village
	Plumber's Tape	2 per village
	Insulation Shield	1 roll per 48 bags blowfill
	2" x 2" Washers (1,000 per box)	10 per 2" styrene (floor)
	12' x 100, 6 mil poly	1 roll per village (painting)
	Wire, Romex	100 lf per village
	Sealer, Benite/Watco	1 gal per village
	Rags	2-4 bags per village
	Paint, Brush	2 per village
	Paint, Roller 9"	2 per village
	Paint, Roller Cover 3/4"	6 per village

Common Materials

Quantity to order	Description	Calculation
	Wire, Tie	1 roll per village
	WM, Switch/Recept Box, Deep, Plastic	1.25 per fan
	WM, Raceway, Plastic	2 per fan
	WM, Flat Elbow, Plastic	1 per fan
	WM, Internal Elbow, Plastic	.25 per fan
	WM, External Elbow, Plastic	.25 per fan
	Wire, Black, 12 ga	12 lf per fan
	Wire, White, 12 ga	12 lf per fan
	Wire, Green, 12 ga	12 lf per fan
	Outlet Receptacle	.25 per fan
	Cover Plate, Outlet	.25 per fan
	Wire Nuts, Yellow	2 per fan + 1/2 box per village
	Wire Nuts, Red	1 per fan + 1/2 box per village

Alaska Weatherization Program

Client # _____ Name: _____ Assessor: _____

Date _____

Completed Weatherization Work

[Insert Scope of Work and/or "See Attached."]

A humidistat was provided to the client: Yes ___ No ___

This certifies that the above work has been completed and a final inspection was completed. Final inspection applies to installation of weatherization materials only and in no way implies that the dwelling otherwise meets applicable codes.

Signed:

Client _____ Date _____

Inspector _____ Date _____

Decal Location _____

Comments:

CONFINED SPACE EVALUATION FORM

Client Name:		**WX #**		
Address:		Inspection #1 Column	Inspection #2 Column	Inspection #3 Column
	Print name of competent person filling out form			
	Date of evaluation			
Use of the word hazard below refers to a serious safety & worker health hazard identified by competent person See OSHA factsheet (DOC FS-3787 05/2015) from more information				
1	**Confined space to enter** (circle one)	**Attic - Crawlspace - Other**	**Attic - Crawlspace - Other**	**Attic - Crawlspace - Other**
	Brief Description of Space			
2	**If entering attic - Is there an "attic board" on site?**	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
3	**Any hazard of reasonable entry/exit?**	Yes - No	Yes - No	Yes - No
4	**Odors present?** (Circle if present)	Natural Gas/Propane - Petroleum - Sewage - Mold - Combustion - Chemical - Other	Natural Gas/Propane - Petroleum - Sewage - Mold - Combustion - Chemical - Other	Natural Gas/Propane - Petroleum - Sewage - Mold - Combustion - Chemical - Other
	If Yes, is odor the level considered a hazard?	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
	Notes:			
5	**Does any height in space cause a hazard?**	Yes - No	Yes - No	Yes - No
6	**Sharp/cutting hazards in space**	Yes - No	Yes - No	Yes - No
7	**Structural concerns in space are a hazard?**	Yes - No	Yes - No	Yes - No
8	**Temperature in confined space a hazard?**	Yes - No	Yes - No	Yes - No
9	**Combustion appliance present in confined space?**	Yes - No	Yes - No	Yes - No
	If Yes, is combustion appliance a hazard?	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
10	**Are there chimney or flue pipes in space?**	Yes - No	Yes - No	Yes - No
	If Yes, is chimney or flue a hazard?	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
11	**Are fuel/gas lines in space?**	Yes - No	Yes - No	Yes - No
	If Yes, fuel/gas line in space a hazard?	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
12	**Is there a hazard in space from plumbing?**	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
13	**Is there a hazard in space from electrical?**	Yes - No	Yes - No	Yes - No
14	**Air monitoring recorded at time of entry** (if applicable)	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
	Oxygen (minimum of 19.5% to maximum of 23.5%)			
	Methane (maximum of 10%)			
	Hydrogen Sulfide (maximum of 10 ppm)			
	Carbon Monoxide (maximum of 35ppm)			
15	**Confined space sign posted at entry of space?**	Yes - No - N/A	Yes - No - N/A	Yes - No - N/A
16	**Signature of Competent Person**			
If yes marked above to any hazard questions, permit required space and hazard must be remedied prior to work, if no hazards identified, continue with work				

Comments/ Notes/Site Specific Safety Plan:

Weatherization Specifications Project

List of Definitions

Agency: Community, Trade and Economic Development Housing Improvement Program

Air sealing: Sealing of the building envelope with materials that stop or prevent air leakage into or through a dwelling unit.

Ambient CO level: The level of CO measured within the dwelling unit, but not within the exhaust flue.

Auditor: the person that identifies health, safety, durability and energy conservation issues, problems and/or opportunities in buildings.

Background CO level: The naturally occurring level of CO measured outside of the dwelling unit.

Baffling: materials used to maintain ventilation openings and minimum clearance requirements.

Base-load costs: those energy costs associated with a building's operation excluding costs associated for heating/cooling.

Btu: British Thermal Unit. The quantity of heat required to raise one pound of water one degree Fahrenheit.

Building air flow standard: The calculation used to determine the target level of airflow in a dwelling unit that should be achieved by mechanical or natural ventilation at the completion of weatherization, measured in CFM50 (i.e., CFM measured at 50 Pascals pressure difference).

Building shell: a building's exterior envelope, consisting of the walls, floor and roof of a building.

By passes: Holes, openings and chase-ways typically found around chimneys, plumbing and electrical penetrations in attics and crawlspaces that allow conditioned air to escape or unconditioned air to enter a dwelling unit.

Ceiling loading: The amount of weight in pounds per square foot a ceiling is designed to support.

Client file: the file that contains documents specific to the work on an individual dwelling unit.

Combustion appliance: Any liquid, gas or solid-fuel burning appliance, including water heaters, wood stoves, ranges, ovens or stove tops, furnaces, boilers, space heaters, fireplaces, fireplace inserts and gas logs.

Combustion appliance zone: (CAZ) The physical area in which the combustion appliance is located; usually contained by a door or an access closure.

Combustion safety diagnostic testing: use of a digital and calibrated manometer to read pressure differentials and CO levels under a variety of natural and created conditions to assist in diagnosing airflow and draft dynamics in a combustion appliance.

Computerized Audit Tool: energy use analysis software that is approved by the Department of Energy for use in determining cost-effective conservation measures

Conditioned basement: an intentionally heated or cooled basement

Contractor: the weatherization agency and their subcontractors

Damming: materials used to prevent insulation from spilling or spreading to areas that may cause moisture, combustion or ventilation problems.

Data logger: A device that measures energy consumption over a given time period, typically in Kilowatt/hours, and often used to determine the energy consumption of refrigerator and freezer units.

De minimus level: the damaged or deteriorated (chipped, peeling, flaking, worn, etc) area of a given painted surface or component that, when exceeded, triggers the use of lead-safe work practices.

Diagnostic testing: use of a digital and calibrated manometer to read pressure differentials under a variety of natural and created conditions to assist in diagnosing airflow and ventilation dynamics in a dwelling unit.

Direct-vented combustion appliance: An ANSI Category I appliance. An appliance that operates with a non-positive vent static pressure and with a vent gas temperature that avoids excessive condensate production in the vent. Combustion air is supplied from outdoors directly to combustion chamber.

Dominant duct leakage testing: A test done with the air handler running that indicates which is the leakier side of the furnace distribution system (the supply side or the return side).

EnergyStar: a Department of Energy designation for products and materials that meet certain established energy efficiency requirements.
EPA: The Environmental Protection Agency; the federal agency that oversees environmental protection.

Exterior wall plate: The bottom framing member of a wall system that lies flat on the exterior perimeter of the foundation and to which wall studs are fastened.

Flame-spread rating: The flame spread index and smoke development index obtained by ASTM E-84 test method for surface burning characteristics of building materials.

Hardwired detector (or fixture): A detector (or fixture) that is directly and permanently wired into a dwelling unit's electrical system.

Heat rise: The number of degrees of temperature increase that air is heated as it is blown over a heat exchanger. Heat rise equals supply temperature minus return temperature.

Heating Degree Days: each degree that the average daily temperature is below the base temperature (usually 65 degree F) constitutes one heating degree day.

IC-rated fixture: A fixture that is rated and labeled for coverage with insulation.

Installed Measure Cost: The actual cost that will be incurred to completely install a given conservation measure. Formulas for calculating the installed measure costs are found in Section 2.6.3.

Installer: the person installing a weatherization measure

Knee wall: A short vertical wall in a story and a half dwelling unit.

Knob and tube wiring: A wiring method used primarily from 1900 to 1930, characterized by the use of two parallel wires supported on insulated glass knobs and tubes.

Lead based paint: Paint that contains 1.0 milligrams per square centimeter or 5000 micrograms per gram or 0.5 percent lead by weight.

Low-cost, No-cost: Relatively inexpensive conservation devices that can be easily installed by the weatherization client, i.e., compact fluorescent bulbs, low-flow shower heads and aerators and door weather-stripping.

Matrix of Insulation measures: a State-approved table that establishes levels of insulation that may added to and/or installed in buildings.

Matrix of non-insulation measures: a State-approved table that establishes non-insulation energy conservation measures

Mechanical air changes: The number of air changes per hour occurring in a dwelling unit as a result of air movement that is assisted with mechanically operated fans.

Multi-family dwelling unit: a unit with more than four dwelling units in a common building

Natural air changes: The number of air changes per hour occurring in a dwelling unit as a result of natural air movement (i.e., without any assistance from mechanical fans).

OSHA: The Occupational Safety and Health Administration; the federal agency that oversees workplace health and safety.

Power-vented combustion appliance: An ANSI Category IV appliance. An appliance that operates with a positive vent static pressure and with a vent gas temperature that may cause excessive condensate production in the vent.

Pressure boundary: an air barrier; usually the primary air barrier, most effective when aligned with a thermal boundary

Pressure pan testing: The process of testing air leakage in duct systems using a device to block a duct register while measuring the static pressure behind the device during a blower door test.

Priority Air Sealing: air sealing that addresses the major and obvious holes in the pressure boundary, typically visible holes in the walls and ceilings of the building envelope.

Program file: the file that contains documents required for the administration of a weatherization program.

Savings to Investment ratio (SIR): the measurement of how many times an energy retrofit pays for itself during an established lifetime.

Sealed combustion appliance: An appliance that draws all combustion air from outdoors and has a sealed exhaust system.

Spillage: The temporary flow of combustion gasses from a dilution device.

Steady-state operating condition: The typical operating condition of a heating appliance after it has gone through it's initial start up period.

Thermal boundary: that plane of a building envelope where insulation is installed to minimize heat flow, most effective when aligned with a pressure boundary

TREAT: Targeted Residential Energy Analysis Tools. A computerized tool that is used during an energy audit that assists in determining cost-effectiveness of anticipated conservation measures for a dwelling unit.

Unconditioned basement: a basement that is intentionally not heated or cooled
Unintentionally conditioned basement: a basement that is heated or cooled unintentionally; typically getting residual heat or cooling from a conditioned space or from conditioning equipment located in the basement

UV resistant: Materials that are resistant to degradation caused by ultra-violet light rays.

Vapor retarder: A material that retards the passage of water vapor.

Vent draft pressure: The pressure in a vent with reference to either the outside or within combustion appliance zone, measured in Pascals.

Weatherization audit: the process of identifying energy conservation opportunities in building

WISHA: The Washington Industrial Safety and health Administration; the State of Washington agency that oversees workplace health and safety.

Worst-case depressurization test: A systematic setup of the dwelling unit in a configuration most likely to cause a combustion appliance to back-draft or spill exhaust gasses into the dwelling unit.

Zonal pressure testing: The use of pressure measurements to compare relative tightness or hole size of different surfaces and zones of a dwelling unit.

Grantee
address
URL

Office:
Fax:
Email:

Client # _____ Name: _____ Assessor: _____ Date: _____

Description of Work

Recommended Weatherization Work— *to be done only as funding, cost-effectiveness and safety allow.*

Conditions of Work—Client Responsibilities

- Provide safe, sanitary and sufficient access to the property for vehicles, equipment, materials, and workers.
  - Clear interior and exterior work areas of obstacles and debris (furniture, stored items, toys, rubbish, pet waste, vehicles, etc.).
  - Restrain pets and keep them away from workers and work areas.
  - Yield to workers and equipment. (Remind your guests to give workers room to work.)
  - Supervise children and keep them out of work areas. (You may need to arrange child care for 1-2 days.)
- Schedule an adult to be present: when the work starts, at the completion of the work, and during a mandatory inspection (to be conducted at a later date).
- Understand that windows and doors may be removed for extended periods of time and plan accordingly.
- Other: _____
- Health and Safety Considerations for the Homeowner: _____

I authorize the recommended weatherization work listed above and understand that some improvements may not be provided due to budget limitations and/or safety concerns.

I certify that the household will meet the Conditions of Work and understand that failure to meet them may result in denial of Weatherization services.

I certify that Weatherization representatives will not be responsible for any damages that occur during the course of normal work if the household fails to comply with the Conditions of Work.

I understand that Health and Safety Considerations are the responsibility of the homeowner to address.

_____ _____

Signature **Date**

Removal & Disposal of Materials Policy

Through the course of weatherization work often parts of a home are replaced. Typical items include (but not limited to):

- Doors
- Windows
- Furnaces
- Boilers
- Woodstoves
- Space heaters (monitors, toyostoves or similar)
- Water heaters
- Refrigerators
- Bathroom fans
- Range hoods

Interior Weatherization's policy concerning replaced materials is:

Any materials being replaced will be taken from the jobsite and disposed of. No materials are to be left behind.

It is the installer's responsibility to remove any replaced items; no items will be left for owner to dispose of. If owner would like to retain replaced items, installer shall not proceed with replacement without approval from the Assessor or Executive Director.

I certify that I have read and understand the above replaced material policy. You are authorizing any replaced materials to be disposed of by signing below. If you do not agree with this policy, do not sign below and contact Interior Weatherization, Inc. immediately.

Printed Owner's Name Owner's Signature Date

Job # Address

Economic Analysis of Refrigerator Replacement

Blue Entries are cells that can be changed by the user
Remember to press Enter after typing each input

Main Inputs

Name of Job:	base line	
Monthly Energy Cost of Existing Refrigerator, as read by Power Meter:	$ 7.21	per month
Annual Energy Use of Replacement Refrigerator from Energy Label:	430	kWh per year
Cost of Refrigerator Replacement, including disposal of old fridge:	$ 540	
Electric Rate for the Home with the Refrigerator: (make sure this is entered into the Power Meter)	$ 0.093	per kWh

Economic Assumptions Approved by DOE

Life of the Refrigerator:	15	years
Economic Discount Rate (real, with inflation removed):	3.40%	per year

Results

Annual Energy Use of Existing Refrigerator:		926	kWh per year
Annual Energy Use of Replacement Refrigerator:		430	kWh per year
	Energy Savings:	496	kWh per year
Annual Energy Cost Savings:		**$ 46**	**per year**
Simple Payback:		**11.6**	**years**
Savings-to-Investment Ratio, SIR:		**1.00**	

Village_____ Name_____ **Client Number**_____

Final WX Check Off

(after weatherization, blower door testing, air sealing)

____ Material installation. Note any further work needed below.
____ Client Education: Explain weatherization measures installed, to include blower door, CO, etc. test results. Answer questions. Give information on ways to save energy.
____ Client Responsibilities: Explain, demonstrate (as required) routine maintenance:

- ____ Energy Efficient Stove (clean fuel, filter replacement, high burn) regularly to keep soot from building up, etc.)
- ____ Ventilation Fan (cleaning, use to control moisture)
- ____ Swedish Vents (cleaning filter, adjustment of air flow)
- ____ Door Threshold (adjustment)
- ____ Attic access (needs to be sealed to keep out moisture--no storage)
- ____ Other _____

_____ _____
Project Superintendent Occupant/owner

* * * * * * * * * * * * * * * *

Corrections Needed: Material used:

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

The above corrections have been completed and the above listed materials have been added.

_____
Crew Supervisor Date

* * * * * * * * * * * * * * * *

I certify that the materials listed on the attached client material list and above list have been installed and a final weatherization inspection has been completed.

_____
Project Superintendent Date

I agree that the materials listed on the attached and above lists have been installed and understand that this final inspection applies to installation of weatherization materials only and is not meant to be a comprehensive safety audit. The safety of the premises is the responsibility of the homeowner/landlord/renter. _____ cannot be responsible for your obligation under any law, rule or regulation. I accept responsibility for routine maintenance as required.

_____ _____
Occupant/Owner Date Landlord (as required) Date

Decal Location _____

CERTIFICATE OF INSULATION

DWELLING INFORMATION	CONTRACTOR INFORMATION
ADDRESS OF RESIDENCE:	**CONTRACTOR NAME:**
	CONTRACTOR ADDRESS:
DATE INSULATION WAS INSTALLED:	**CONTRACTOR PHONE #:**

AREA INSULATED (specify area in space below)	Square Footage	Existing R-Value	Added R-Value	Final R-Value	Type of Insulation Installed	Installed Depth (new, do not include existing)	# of Bags	Size or Weight of Bag
Foundation - Area 1								
Foundation - Area 2								
Floor - Area 1								
Floor - Area 2								
Floor - Area 3								
Rim Joist - Area 1								
Rim Joist - Area 2								
Wall - Area 1								
Wall - Area 2								
Wall - Area 3								
Attic - Area 1								
Attic - Area 2								
Attic - Area 3								
Other -								
Other -								

INSTALLER CERTIFICATION

I, _____ (print name), certify that this residence was insulated in conformance with all applicable codes, standards, regulations, and specifications of the Low-Income Weatherization Assistance Program, as administered by Alaska Housing Finance Corporation.

_____ AUTHORIZED SIGNATURE

_____ DATE

Copy 1: Posted at access of insulated area WITH an empty insulation bag or wrapper attached Copy 2: Give to Client Copy 3: Place in WX file Revised: April 2008

JOB NOTES for Job #_____

Date	Notes	Initial

WX Rental limits & Owner/Landlord Contribution Calculations

Matching Funds :	(Owner/Landlord contributes funds)
Single Family and duplex (per unit):	**Owner pays 50% of all work over $6000 ($8000 agency max.)**
Tri-plex or 4-plex (per unit):	**Owner pays 50% of all work over $4000 ($8000 agency max.)**
5-plex & more (per unit):	**Owner pays 50% of all work over $3000 ($6000 agency max.)**
No Contribution :	(Owner chooses not to contribute funds & no waiver)
Single Family and duplex (per unit):	**$6000 agency max.**
Tri-plex or 4-plex (per unit):	**$4000 agency max.**
5-plex & more (per unit):	**$3000 agency max.**

Owners living in their own multi-family (including duplex) have an $8000 budget maximum for their unit.

Landlord Contribution Calculation

# of Units		
# of **ELIGIBLE** units:		
	$3,000	Per unit max without contribution.
	$0	Project max without contribution.
	$6,000	Per unit agency max with contribution
	$0	Project agency max with contribuition

	Labor / Materials	
Project Total:		
Grant Funds Initial Calculation	$0	
Amount over allowable	$0	
Grant Funds Secondary Calculation	$0	
Landlord Contribution Initial Calculation	$0	
Landlord In-Kind Contribution	$0	
Landlord Contribution Secondary Calculation	$0	
Grant Funds Calculation after In Kind	$0	
Amount over allowable	$0	
Landlord Final Calculation	**$0**	#DIV/0!
Grant Funds Final Calculation	**$0**	#DIV/0!

MAXIMUM DEPRESSURIZATION DATA SHEET

IF YOU ARE GOING TO TEST-TEST CORRECTLY!

JOB# _____ **CLIENT** _____

PRE-TEST	**TECH**	
	DATE	
POST-TEST	**TECH**	
	DATE	

LIST APPLIANCES	
APPLIANCE 1	
APPLIANCE 2	
APPLIANCE 3	
APPLIANCE 4	

STEP A - PREPARE THE HOUSE FOR TESTING

(1) CLOSE all exterior doors and lock windows. (2) Turn OFF the HVAC system. (3) Turn OFF all exhaust appliances. (4) OPEN all interior doors. (5) CLOSE house to garage man door (will be closed for all test). (6)CLOSE all fireplace dampers (7) Record furnace filter placement during test.

FURNACE FILTER PLACEMENT	Filter In	Filter Out	Not Applicable

FILTER IN PLACE	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

STEP B – SET UP THE DIGITAL MANOMETER

(1) Run a hose from channel "A" input tap to within 3' of the combustion appliance (CAZ). (2) Run a hose from channel "A" reference tap to outdoors.

STEP C – DETERMINE BASELINE PRESSURE

Read baseline pressure and record in box to the right.

STEP D - Turn HRV on high (if applicable), record manometer pressure in box to right. If pressure goes negative from baseline, HRV is acting as exhaust appliance and will be turned on high for test below, if goes positive from baseline shut off for test below.

BASELINE	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

HRV		

TEST 1 - EXHAUST APPLIANCES ON

(1) Turn on all exhaust appliances. (2) Set interior doors (house to garage door closed) for most negative CAZ. Start with the farthest door from the combustion appliance and work back toward the combustion appliance. Smoke each door and determine if the smoke is going away from or to the combustion appliance.

~If the smoke is going AWAY from the combustion appliance, OPEN the door.

~If the smoke is FLOWING TO the combustion appliance, CLOSE the door.

Test all doors in the same manner, all the way back to the combustion appliance. (3) Read CAZ pressure and record in box to right.

TEST 1	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

*** If there is NO furnace in the home, Skip test 2 &3 and DOCUMENT WORST CASE CONDITION ***

TEST 2–AIR HANDLER (FURNACE) AND EXHAUST APPLIANCES ON

(1) Turn on all exhaust appliances.

(2) Turn ON air handler.

(3) Use smoke to determine interior door positions.

(4) Read CAZ Pressure and record in box to right.

TEST 2	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

CONTINUED ON NEXT PAGE →

TEST 3 – AIR HANDLER (FURNACE) ON

(1) Turn all exhaust appliances OFF. (2) Turn the air handler on. (3)With interior doors open, read CAZ Pressure and record in box 3a below. (Dominant Duct Leakage Test).(4) Use smoke to determine Interior door positions. (5) Read CAZ Pressure and record in box 3b below.

TEST 3A

	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

TEST 3B

	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

WORST CASE CONDITION

Record in box at right the worst case condition. Worst case is the MOST negative test adjusted for baseline pressure. For example, the baseline pressureis -1 pa and test1 reads –4 pa, test 2 -7 pa, and test 3 –3pa. Worst case is the difference between baseline and test 2, which is –6 pa (-1 to –7).

WORST CASE

PRE-TEST		POST-TEST	APPLICABLE LIMIT
APPLIANCE 1			
APPLIANCE 2			
APPLIANCE 3			
APPLIANCE 4			

HOUSE DEPRESSURIZATION LIMITS

Compare worst case pressure with depressurization limits noted below. Circle Depressurization limit that applies to the appliance being tested.

NATURAL DRAFT WATER HEATER OR FIREPLACE	NATURAL DRAFT BOILER OR FURNACE	POWER OR INDUCED DRAFT BOILER OR FURNACE	WOODSTOVE OR FIREPLACE INSERT	SEALED APPLIANCE, DIRECT VENT APPLIANCE OR TOYO STOVE / MONITOR	HIGH STATIC PRESSURE FLAME RETENTION HEAD OIL BURNER
-3 PASCAL	-5 PASCAL	-10 PASCAL	-10 PASCAL	-20 PASCAL	-20 PASCAL

*****SKIP TEST 4 & 5 IF SEALED COMBUSTION*****

TEST 4-SPILLAGE

(1)Set house in worst case condition, assure interior doors are set correctly. (2) Turn combustion appliance on and smoke test the barometric damper or draft hood. (3) If chimney drafts within 1 minute, the combustion appliance passes the spillage test and record in table 4a, if draft is not established in one minute the combustion appliance fails the spillage test and record in table 4a. (4) IF APPLIANCE FAILS, turn heater off and all exhaust fans off. Wait 5 minutes and restart heater (all exhaust fans off). Smoke test the barometric damper or draft hood. If chimney drafts within 1 minute, record pass in table 4b, if draft is not established in one minute record fail in table 4b.

4A

SPILLAGE TEST IN WORST CASE

	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

4B

ONLY COMPLETE IF WORST CASE SPILLAGE FAILS

SPILLAGE TEST NO EXHAUST FANS ON

	PRE-TEST	POST-TEST
APPLIANCE 1		
APPLIANCE 2		
APPLIANCE 3		
APPLIANCE 4		

TEST 5- CHIMNEY DRAFT TEST

(1)Set house up in worst case condition, assure interior doors are set correctly. (2) Place input tap into chimney minimum of 6" above (downstream) the barometric damper and reference tap open to CAZ (3) After 1 minute of the heater running, record chimney draft in box below.

5A

DRAFT TEST IN WORST CASE

	PRE-TEST	POST-TEST	MIN ACCT. DRAFT
APPLIANCE 1			
APPLIANCE 2			
APPLIANCE 3			
APPLIANCE 4			

5B ONLY COMPLETE IF FAIL IN WORST CASE

DRAFT TEST NO EXHAUST FANS ON

	PRE-TEST	POST-TEST	MIN ACCT. DRAFT
APPLIANCE 1			
APPLIANCE 2			
APPLIANCE 3			
APPLIANCE 4			

MINIMUM ACCEPTABLE DRAFT

Compare chimney draft with minimum acceptable draft chart noted below. Circle minimum acceptable draft that applies to the temperature outside during the test. If outside temperature is between 10 and 90, then compute acceptable draft and document in table above.

OUTSIDE TEMPERATURE	Below 10°	10° to 90°Computed Draft (if applicable)	Above 90°
MINIMUM ACCEPTABLE DRAFT	-2.5 pa or .01" wc	(Outside temp/40)-2.75	-.5 pa or .002" wc

Alaska Housing Finance Corporation
Alaska Weatherization Assistance Program
[Grantee name]
Promotional Release Form

I hereby irrevocably give the [**Grantee name**] and its affiliates the right and permission to copyright and/or publish, reproduce or otherwise use my name, voice and likeness and/or written material, photographs, motion pictures, and audio-visual, magnetic recordings about or by me for instruction, program promotion or any other lawful purpose.

I hereby agree to relinquish all rights, title, and interest I may have in the finished product or the advertising copy that may be used in connection therewith, and waive all rights to payment or compensation therefor.

Printed Name: _____

Signature: _____

Parent or Guardian Signature (if under 18): _____

Date: _____

Address: _____

_____

Required WX Site Client File Documents

This is required as part of the Client file

The Admin Client file and WX Site Client Files are usually two different files. Admin stays in the office as it has confidential personal information. The WX Site Client File is a working file, which MUST be brought to the client home inspections. After the project is closed-out the files may be combined, or at minimum, both be accessible for Program Monitoring and Client File Inspection.

- ☐ **1.** Multi-family—each completed unit must have a client number, e.g., if reporting 8 completions, there must be 8 client numbers. Client names should be included. See pg. 3-24 for exceptions.
- ☐ **2.** Scope of work for each dwelling unit or building signed by client before WX work begins. For rentals, LTA Addendum signed by landlord before work begins.
- ☐ **3.** AKWARM reports, including As-Is, Improvement Options Report (IOR) and Post.
- ☐ **4.** If the year the dwelling unit was built is pre-1978 or unknown, there MUST be Certified Renovator Lead Safe documentation in the file, including:
  - Signed Certified Renovator lead paint inspection form, **dated prior to WX work starting**
  - Lead paint inspection test sheet.
  - Renovate Right receipt form signed by client (for single-family or multi-family units), **dated prior to WX work starting**
  - If using a contracted Lead Paint testing company that issues a Lead Paint letter, the person conducting the test must be a certified lead-based paint inspector or Risk Assessor.
- ☐ **5.** Mold Disclaimer signed by client before work begins
- ☐ **6.** Asbestos and radon sign-offs before work begins *(DOE-funded projects only)*
- ☐ **7.** Any other health-and-safety notices issued, signed before work begins
- ☐ **8.** **SHPO** review required for all dwelling units regardless of age. Documentation of compliance also required if SHPO stipulates conditions for any measures.
- ☐ **9.** Materials list, with prices if possible
- ☐ **10.** Home or building diagnostics with blower door figures: Target (BTL), As-Is and Post
- ☐ **11.** Photos
- ☐ **12.** Client signature on Completion of Work and on any change orders or Additional Work issued
- ☐ **13.** Agency WX Post Measures Checklist

Air Tools

Compressor, Big	Hose, 3/8", 50-foot	Nailer, Finish SFN I
Compressor, Small	Metal Cutting Shear	Nailer, Siding SN60
Hose, 1/4", 25-foot	Nail Gun, SN IV	Stapler, M II
Hose, 3/8", 25-foot		

Diagnostic Testing

B/D - Dig. Pres. Gauge	Duct Blaster	Monoxor II - CO Analyzer
BD Frame & Cover		

Foundation Tools

Axe	Nail Puller 4"	Jacking Hydraulic Pump/Motor
Cribs	Pry Bar, 4"	Jacking Hydraulic Ram
Cribing- Short Blacks	Pry Bar, Large	Jacking Hydraulic Ram Base
Cribbing-16' X 6' X 8'	Jack & Handle 30 ton	Shovel, Handle (D)
Cribbing-12' X 6' X 8	Jacking Air Bags	Sledge 12#
Handy Man Jack	Jacking Hydraulic Hose, 25'	Transit Level, Laser
Hydralic Fluid	Jacking Hydraulic Jack 12 Ton	

Hand Tools

Allen Set	Electric Cord (30 amp Gen.)	Socket Set
Barrel Lock	File, various	Speed Square
Camera	Foam Gun	Square, Framing
Camera, 35mm	Freezer	Stapler, various
Camera-Disposal	Gas can, 2 1/2-gal	Sure Form
Cat's Paw	Gas Can, 5-gal	Tape Measure, 25'
Caulk gun	Gun, Grease	Tire Chuck
Chain 20'	Hack Saw	Tire Pump
Chalk Box	Hammers	Tow Cable, 7/16"
Chalk Line	Hand Saw, short	Voltage Tester Analog
Channel Locks	Hole Saw & extension	Tool Belt, cloth
Chisels	Hole Saw, arbor	Tubing Cutter
Drill Bits, various	Level, 2' - 4'	Tubing Flare Tool
Drill Bits, Mag Holder	Nail Punch	Utility Knife
Drill Bits, Nut Setter	Nippers	Vise Grips 6"
Drill Bits, Pilot	Pipe Wrench, various	Wrench Lug
Drill Bits, spade	Pliers	Wrench, adjustable, various
Drop Light	Pry Bar, flat (wonder)	Ladder, 16' EXT
Electric Cord (3-wy)	Saw Blade, Sawzall	Ladder, 24' EXT
Electric Cord (Ribbon) 50'	Screwdriver, various	Ladder, step 8
Electric Cord (reg.)(#12) 50'	Snips, various	

Equipment

4-Wheeler	Insul Blowfill w/hose,cord	Trailer, Double axle
Fax Machine	Paint Sprayer	Trailer, Single Axle
Generator, 3000wt	Pump, Water	Trailer, Wagon

Miscellaneous--disposable

Battery	Oil, 10w40	Saw Blade, 4 1/4"
Chalk, blue	Oil, 2-cycle	Saw Blade, 7 1/4"
Chalk, red	Oil, Air tool	Saw Blade, 8 1/4"
Fillm	Oil, Sawlube	Tape, Caution
Film, 35mm	Rope, 1/4"	Tyvek Suits
Fix-A-Flat	Rope, Nylon	Utility Knife Blades
Grease - Winter Grade	Saw Blade, 10"	

Power Tools

Battery Charger & Battery	Drill, Angle w/clutch	Saw, Trim 4 1/2"
Chainsaw, gas	Grinder, Disc	Saw, Worm Drive, 7 1/4"
Dril, Cordless	Saw - Chop	Sawzall
Drill, 1/2"	Saw, Table	Wrench, Ratchet 1/2"

Safety

Ear Plugs	Knee Pads	Safety Glasses
First Aid Kit	Particle Masks	Safety Goggles
GFCI Breaker	Respirator	Safety Harness
Hard Hats	Respirator Filters	

Weatherization Operations Manual

Section 7. Health and Safety Forms

1. ***A* Brief *Guide to Mold, Moisture, and Your Home* Brochure**
2. **Allowable Health and Safety Measures for State Funds**
3. ***Asbestos in Your Home*** [DOE only]
4. ***Asbestos in Your Home* Sign-Off** [DOE only]
5. ***Basic Radon Facts*** [DOE only]
6. ***Basic Radon Facts* Sign-Off** [DOE only]
7. **Health and Safety Notification**
8. **Lead-Based Paint Activities**
9. **Mold Disclaimer**
10. **Pollution Source Survey** [Sample] [DOE only]
11. ***Renovate Right* Brochure**
12. ***Renovate Right* Brochure Sign-Off**
13. **Summary Notice of Lead-Based Paint Inspection**

- **Grantees may reformat the appearance of (AHFC) Forms #4, #6, #7-10, and #12-13.**
- **Grantees may distribute black and white copies of Forms #1, #3, #5, and #11-#12. Grantees also may reformat these forms to increase readability for clients with impaired vision, but the content cannot be altered.**

Indoor Air Quality (IAQ)

EPA 402-K-02-003
(Reprinted 09/2012)

This Guide provides information and guidance for homeowners and renters on how to clean up residential mold problems and how to prevent mold growth.

U.S. Environmental Protection Agency
Office of Air and Radiation
Indoor Environments Division
1200 Pennsylvania Avenue, N. W.
Mailcode: 6609J
Washington, DC 20460
www.epa.gov/iaq

A Brief Guide to Mold, Moisture, and Your Home

Contents

MOLD BASICS

- **The key to mold control is moisture control.**
- **If mold is a problem in your home, you should clean up the mold promptly *and* fix the water problem.**
- **It is important to dry water-damaged areas and items within 24-48 hours to prevent mold growth.**

Why is mold growing in my home? Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.

Mold growing outdoors on firewood. Molds come in many colors; both white and black molds are shown here.

Can mold cause health problems? Molds are usually not a problem indoors, unless mold spores land on a wet or damp spot and begin growing. Molds have the potential to cause health problems. Molds produce allergens (substances that can cause allergic reactions), irritants, and in some cases, potentially toxic substances (mycotoxins).

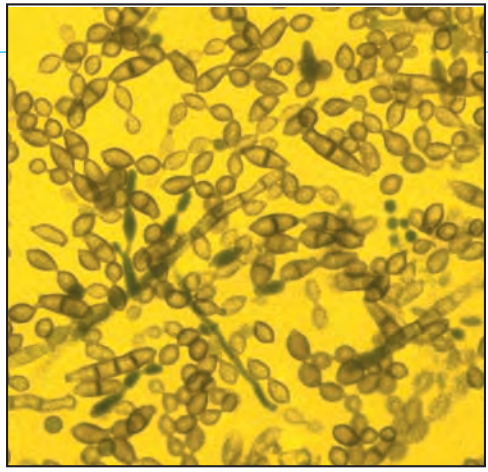
Inhaling or touching mold or mold spores may cause allergic reactions in sensitive individuals. Allergic responses include hay fever-type symptoms, such as sneezing, runny nose, red eyes, and skin rash (dermatitis). Allergic reactions to mold are common. They can be immediate or delayed. Molds can also cause asthma attacks in people with asthma who are allergic to mold. In addition, mold exposure can irritate the eyes, skin, nose, throat, and lungs of both mold-

allergic and non-allergic people. Symptoms other than the allergic and irritant types are not commonly reported as a result of inhaling mold.

Research on mold and health effects is ongoing. This brochure provides a brief overview; it does not describe all potential health effects related to mold exposure. For more detailed information consult a health professional. You may also wish to consult your state or local health department.

How do I get rid of mold?

It is impossible to get rid of all mold and mold spores indoors; some mold spores will be found floating through the air and in house dust. The mold spores will not grow if moisture is not present. Indoor mold growth can and should be prevented or controlled by controlling moisture indoors. If there is mold growth in your home, you must clean up the mold **and** fix the water problem. If you clean up the mold, but don't fix the water problem, then, most likely, the mold problem will come back.



Magnified mold spores.

Molds can gradually destroy the things they grow on. You can prevent damage to your home and furnishings, save money, and avoid potential health problems by controlling moisture and eliminating mold growth.

MOLD CLEANUP

Leaky window – mold is beginning to rot the wooden frame and windowsill.

If you already have a mold problem –

ACT QUICKLY.

Mold damages what it grows on. The longer it grows, the more damage it can cause.

Who should do the cleanup? Who should do the cleanup depends on a number of factors. One consideration is the size of the mold problem. If the moldy area is less than about 10 square feet (less than roughly a 3 ft. by 3 ft. patch), in most cases, you can handle the job yourself, following the guidelines below. However:

- If there has been a lot of water damage, and/or mold growth covers more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide: *Mold Remediation in Schools and Commercial Buildings*. Although focused on schools and commercial

buildings, this document is applicable to other building types. It is available on the Internet at: www.epa.gov/mold.

- If you choose to hire a contractor (or other professional service provider) to do the cleanup, make sure the contractor has experience cleaning up mold. Check references and ask the contractor to follow the recommendations in EPA's *Mold Remediation in Schools and Commercial Buildings*, the guidelines of the American Conference of Governmental Industrial Hygenists (ACGIH), or other guidelines from professional or government organizations.

- If you suspect that the heating/ventilation/air conditioning (HVAC) system may be contaminated with mold (it is part of an identified moisture problem, for instance, or there is mold near the intake to the system), consult EPA's guide *Should You Have the Air Ducts in Your Home Cleaned?* before taking further action. Do not run the HVAC system if you know or suspect that it is contaminated with mold - it could spread mold throughout the building. Visit www.epa.gov/iaq/pubs to download a copy of the EPA guide.

- If the water and/or mold damage was caused by sewage or other contaminated water, then call in a professional who has experience cleaning and fixing buildings damaged by contaminated water.

- If you have health concerns, consult a health professional before starting cleanup.

MOLD CLEANUP GUIDELINES

Bathroom Tip

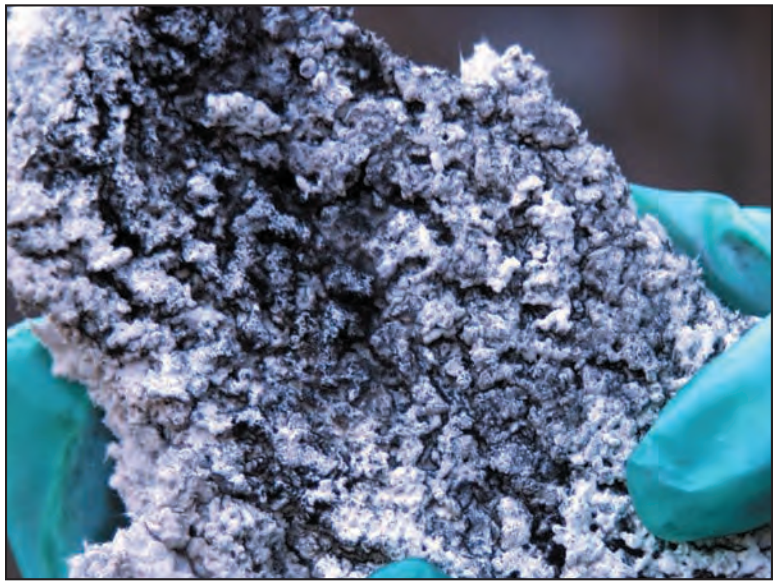
Places that are often or always damp can be hard to maintain completely free of mold. If there's some mold in the shower or elsewhere in the bathroom that seems to reappear, increasing the ventilation (running a fan or opening a window) and cleaning more frequently will usually prevent mold from recurring, or at least keep the mold to a minimum.

Tips and techniques The tips and techniques presented in this section will help you clean up your mold problem. Professional cleaners or remediators may use methods not covered in this publication. Please note that mold may cause staining and cosmetic damage. It may not be possible to clean an item so that its original appearance is restored.

- **Fix plumbing leaks and other water problems as soon as possible. Dry all items completely.**
- **Scrub mold off hard surfaces with detergent and water, and dry completely.**

Mold growing on the underside of a plastic lawnchair in an area where rainwater drips through and deposits organic material.

Mold growing on a piece of ceiling tile.



- Absorbent or porous materials, such as ceiling tiles and carpet, may have to be thrown away if they become moldy. Mold can grow on or fill in the empty spaces and crevices of porous materials, so the mold may be difficult or impossible to remove completely.

- Avoid exposing yourself or others to mold (see discussions: **What to Wear When Cleaning Moldy Areas** and **Hidden Mold**.)

- Do not paint or caulk moldy surfaces. Clean up the mold and dry the surfaces before painting. Paint applied over moldy surfaces is likely to peel.

- If you are unsure about how to clean an item, or if the item is expensive or of sentimental value, you may wish to consult a specialist. Specialists in furniture repair, restoration, painting, art restoration and conservation, carpet and rug cleaning, water damage, and fire or water restoration are commonly listed in phone books. Be sure to ask for and check references. Look for specialists who are affiliated with professional organizations.

WHAT TO WEAR WHEN CLEANING MOLDY AREAS

Mold growing on a suitcase stored in a humid basement.

It is important to take precautions to LIMIT YOUR EXPOSURE to mold and mold spores.

- **Avoid breathing in mold or mold spores**. In order to limit your exposure to airborne mold, you may want to wear an N-95 respirator, available at many hardware stores and from companies that advertise on the Internet. (They cost about $12 to $25.) Some N-95 respirators resemble a paper dust mask with a nozzle on the front, others are made primarily of plastic or rubber and have removable cartridges that trap most of the mold spores from entering. In order to be effective, the respirator or mask must fit properly, so carefully follow the instructions supplied with the respirator. Please note that the Occupational Safety and Health Administration (OSHA) requires that respirators fit properly (fit testing) when used in an occupational setting; consult OSHA for more information (800-321-OSHA or osha.gov/).

- **Wear gloves**. Long gloves that extend to the middle of the forearm are recommended. When working with water and a mild detergent, ordinary household rubber gloves may be used. If you are using a disinfectant, a biocide such as chlorine bleach, or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane, or PVC (see **Cleanup and Biocides**). Avoid touching mold or moldy items with your bare hands.

- **Wear goggles**. Goggles that do not have ventilation holes are recommended. Avoid getting mold or mold spores in your eyes.

Cleaning while wearing N-95 respirator, gloves, and goggles.

How do I know when the remediation or cleanup is finished?

You must have completely fixed the water or moisture problem before the cleanup or remediation can be considered finished.

- You should have completed mold removal. Visible mold and moldy odors should not be present. Please note that mold may cause staining and cosmetic damage.

- You should have revisited the site(s) shortly after cleanup and it should show no signs of water damage or mold growth.

- People should have been able to occupy or re-occupy the area without health complaints or physical symptoms.

- Ultimately, this is a judgment call; there is no easy answer.

MOISTURE AND MOLD PREVENTION AND CONTROL TIPS

MOISTURE Control is the Key to Mold Control

Mold growing on the surface of a unit ventilator.

- When water leaks or spills occur indoors - **ACT QUICKLY**. If wet or damp materials or areas are dried 24-48 hours after a leak or spill happens, in most cases mold will not grow.
- Clean and repair roof gutters regularly.
- Make sure the ground slopes away from the building foundation, so that water does not enter or collect around the foundation.
- Keep air conditioning drip pans clean and the drain lines unobstructed and flowing properly.

Condensation on the inside of a window-pane.

- Keep indoor humidity low. If possible, keep indoor humidity below 60 percent (ideally between 30 and 50 percent) relative humidity. Relative humidity can be measured with a moisture or humidity meter, a small, inexpensive ($10-$50) instrument available at many hardware stores.

- If you see condensation or moisture collecting on windows, walls or pipes - ACT QUICKLY to dry the wet surface and reduce the moisture/water source. Condensation can be a sign of high humidity.

Actions that will help to reduce humidity:

- Vent appliances that produce moisture, such as clothes dryers, stoves, and kerosene heaters to the outside where possible. (Combustion appliances such as stoves and kerosene heaters produce water vapor and will increase the humidity unless vented to the outside.)

- Use air conditioners and/or de-humidifiers when needed.

- Run the bathroom fan or open the window when showering. Use exhaust fans or open windows whenever cooking, running the dishwasher or dishwashing, etc.

Actions that will help prevent condensation:

- Reduce the humidity (see preceeding page).
- Increase ventilation or air movement by opening doors and/or windows, when practical. Use fans as needed.
- Cover cold surfaces, such as cold water pipes, with insulation.
- Increase air temperature.

Mold growing on a wooden headboard in a room with high humidity.

Renters: Report all plumbing leaks and moisture problems immediately to your building owner, manager, or superintendent. In cases where persistent water problems are not addressed, you may want to contact local, state, or federal health or housing authorities.

Rust is an indicator that condensation occurs on this drainpipe. The pipe should be insulated to prevent condensation.

Testing or sampling for mold

Is sampling for mold needed? **In most cases, if visible mold growth is present, sampling is unnecessary.** Since no EPA or other federal limits have been set for mold or mold spores, sampling cannot be used to check a building's compliance with federal mold standards. Surface sampling may be useful to determine if an area has been adequately cleaned or remediated. Sampling for mold should be conducted by professionals who have specific experience in designing mold sampling protocols, sampling methods, and interpreting results. Sample analysis should follow analytical methods recommended by the American Industrial Hygiene Association (AIHA), the American Conference of Governmental Industrial Hygienists (ACGIH), or other professional organizations.

HIDDEN MOLD

Mold growing on the back side of wallpaper.

Suspicion of hidden mold You may suspect hidden mold if a building smells moldy, but you cannot see the source, or if you know there has been water damage and residents are reporting health problems. Mold may be hidden in places such as the back side of dry wall, wallpaper, or paneling, the top side of ceiling tiles, the underside of carpets and pads, etc. Other possible locations of hidden mold include areas inside walls around pipes (with leaking or condensing pipes), the surface of walls behind furniture (where condensation forms), inside ductwork, and in roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

Investigating hidden mold problems Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth. For example, removal of wallpaper can lead to a massive release of spores if there is mold growing on the underside of the paper. If you believe that you may have a hidden mold problem, consider hiring an experienced professional.

Cleanup and Biocides Biocides are substances that can destroy living organisms. The use of a chemical or biocide that kills organisms such as mold (chlorine bleach, for example) is not recommended as a routine practice during mold cleanup. There may be instances, however, when professional judgment may indicate its use (for example, when immune-compromised individuals are present). In most cases, it is not possible or desirable to sterilize an area; a background level of mold spores will remain - these spores will not grow if the moisture problem has been resolved. If you choose to use disinfectants or biocides, always ventilate the area and exhaust the air to the outdoors. Never mix chlorine bleach solution with other cleaning solutions or detergents that contain ammonia because toxic fumes could be produced.

Please note: Dead mold may still cause allergic reactions in some people, so it is not enough to simply kill the mold, it must also be removed.

Water stain on a basement wall — locate and fix the source of the water promptly.

ADDITIONAL RESOURCES

For more information on mold related issues including mold cleanup and moisture control/condensation/ humidity issues, visit:

www.epa.gov/mold

Mold growing on fallen leaves.

This document is available on the Environmental Protection Agency, Indoor Environments Division website at: www.epa.gov/mold

NOTES

Acknowledgements

EPA would like to thank Paul Ellringer, PE, CIH, for providing the photo on page 14.

Please note that this document presents recommendations. EPA does not regulate mold or mold spores in indoor air.

EPA

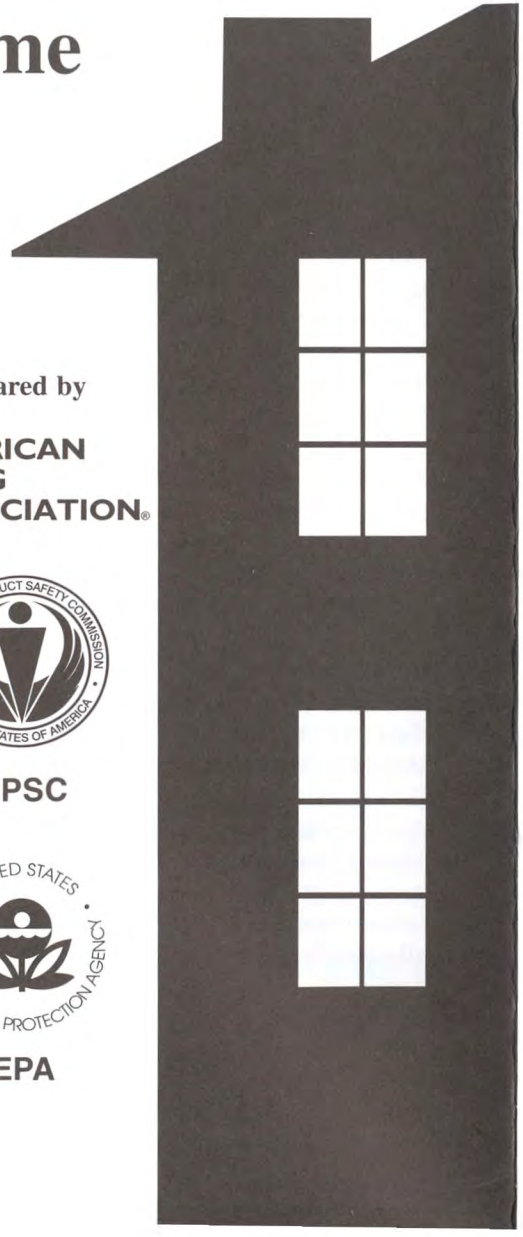
Indoor Air Quality (IAQ)

Allowable Health and Safety Measures for State funds

- Heating system maintenance, repair, or replacement because of dangerous conditions
- Solid fuel heating maintenance, repair, or replacement
- Water Heater repair or replacement because of CO danger
- Gas cook stove repair because of CO danger
- Combustion gas ventilation
- Building structure and roofing—only when needed to perform energy improvements effectively; such as repairing a roof leak that prevents insulation from being added or replaced, repairing a loose water/waste system pipe that will affect WX measures
- Bulk water drainage issues, such as adding gutters or sump pumps to prevent excess moisture in crawl/foundation
- Limited electrical repair for safety, such as installing a GFCI or an extra circuit for a WX component or repairing open junction boxes in the attic where insulation will be added or replaced
- Surge protectors for heat sources
- Stair repair and handrails
- Lead Safe Work Practices (the additional costs for the LSWP, not the cost of the WX measure itself)
- Occupant preexisting or potential health issue verified by a professional clinician/care coordinator/case worker
- Reclamation of refrigerant and disposal of refrigerator
- Vapor Barrier
- Ventilation
- CO and Smoke detectors
- Egress window—when WX would otherwise be improving the window
- *Modest* accessibility improvements that are not cost-effective under other programs (For example, it may not be cost-effective to process a grant under another program to install two grab bars or to add handrails to a long hallway or to convert two steep entry steps to three senior steps, but WX could provide modest improvements like these at a lower cost overall due to already working on the premises.)

It is recommended that Grantees not exceed 20% of the average cost per unit for health and safety measures during the program year for each type of funding (EWX and WX).

Asbestos in Your Home



Prepared by

AMERICAN LUNG ASSOCIATION®

CONSUMER PRODUCT SAFETY COMMISSION · UNITED STATES OF AMERICA ·

CPSC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPA

This booklet will help you understand asbestos: what it is, its health effects, where it is in your home, and what to do about it.

Even if asbestos is in your home, this is usually NOT a serious problem. The mere presence of asbestos in a home or a building is not hazardous. The danger is that asbestos materials may become damaged over time. Damaged asbestos may release asbestos fibers and become a health hazard.

THE BEST THING TO DO WITH ASBESTOS MATERIAL IN GOOD CONDITION IS TO LEAVE IT ALONE! Disturbing it may create a health hazard where none existed before. Read this booklet before you have any asbestos material inspected, removed, or repaired.

What Is Asbestos?

Asbestos is a mineral fiber. It can be positively identified only with a special type of microscope. There are several types of asbestos fibers. In the past, asbestos was added to a variety of products to strengthen them and to provide heat insulation and fire resistance.

How Can Asbestos Affect My Health?

From studies of people who were exposed to asbestos in factories and shipyards, we know that breathing high levels of asbestos fibers can lead to an increased risk of:

• lung cancer;

10,000 copies of this public docment were printed at a cost of $1,420.60 or $0.14 per copy.

3716 Published by the American Lung Association 1/95

- mesothelioma, a cancer of the lining of the chest and the abdominal cavity; and
- asbestosis, in which the lungs become scarred with fibrous tissue.

The risk of lung cancer and mesothelioma increases with the number of fibers inhaled. The risk of lung cancer from inhaling asbestos fibers is also greater if you smoke. People who get asbestosis have usually been exposed to high levels of asbestos for a long time. The symptoms of these diseases do not usually appear until about 20 to 30 years after the first exposure to asbestos.

Most people exposed to small amounts of asbestos, as we all are in our daily lives, do not develop these health problems. However, if disturbed, asbestos material may release asbestos fibers, which can be inhaled into the lungs. The fibers can remain there for a long time, increasing the risk of disease. Asbestos material that would crumble easily if handled, or that has been sawed, scraped, or sanded into a powder, is more likely to create a health hazard.

Where Can I Find Asbestos And When Can It Be A Problem?

Most products made today do not contain asbestos. Those few products made which still contain asbestos that could be inhaled are required to be labeled as such. However, until the 1970s, many types of building products and insulation materials used in homes contained asbestos. Common products that might have contained asbestos in the past, and conditions which may release fibers, include:

- STEAM PIPES, BOILERS, and FURNACE DUCTS insulated with an asbestos blanket or asbestos paper tape. These materials may release asbestos fibers if damaged, repaired, or removed improperly.
- RESILIENT FLOOR TILES (vinyl asbestos, asphalt, and rubber), the backing on VINYL SHEET FLOORING, and ADHESIVES used for installing floor tile. Sanding tiles can release fibers. So may scraping or sanding the backing of sheet flooring during removal.
- CEMENT SHEET, MILLBOARD, and PAPER used as insulation around furnaces and wood-burning stoves. Repairing or removing appliances may release asbestos fibers. So may cutting, tearing, sanding, drilling, or sawing insulation.
- DOOR GASKETS in furnaces, wood stoves, and coal stoves. Worn seals can release asbestos fibers during use.
- SOUNDPROOFING OR DECORATIVE MATERIAL sprayed on walls and ceilings. Loose, crumbly, or water-damaged material may release fibers. So will sanding, drilling, or scraping the material.
- PATCHING AND JOINT COMPOUNDS for walls and ceilings, and TEXTURED PAINTS. Sanding, scraping, or drilling these surfaces may release asbestos.
- ASBESTOS CEMENT ROOFING, SHINGLES, and SIDING. These products are not likely to release asbestos fibers unless sawed, drilled or cut.
- ARTIFICIAL ASHES AND EMBERS sold for use in gas-fired fireplaces. Also, other older household products such as FIREPROOF GLOVES, STOVE-TOP PADS, IRONING BOARD COVERS, and certain HAIRDRYERS.
- AUTOMOBILE BRAKE PADS AND LININGS, CLUTCH FACINGS, and GASKETS.

What Should Be Done About Asbestos In The Home?

If you think asbestos may be in your home, don't panic! Usually, the best thing is to LEAVE asbestos material that is in good condition ALONE.

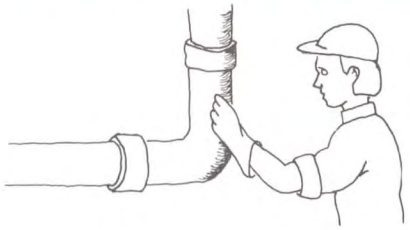
Generally, material in good condition will not release asbestos fibers. THERE IS NO DANGER unless fibers are released and inhaled into the lungs.

Check material regularly if you suspect it may contain asbestos. Don't touch it, but look for signs of wear or damage such as tears, abrasions, or water damage. Damaged material may release asbestos fibers. This is particularly true if you often disturb it by hitting, rubbing, or handling it, or if it is exposed to extreme vibration or air flow.

How To Identify Materials That Contain Asbestos

You can't tell whether a material contains asbestos simply by looking at it, unless it is labeled. If in doubt, treat the material as if it contains asbestos or have it sampled and analyzed by a qualified professional. A professional should take samples for analysis, since a professional knows what to look for, and because there may be an increased health risk if fibers are released. In fact, if done incorrectly, sampling can be more hazardous than leaving the material alone. Taking samples yourself is not recommended. If you nevertheless choose to take the samples yourself, take care not to release asbestos fibers into the air or onto yourself. Material that is in good condition and will not be disturbed (by remodeling, for example) should be left alone. Only material that is damaged or will be disturbed should be sampled. Anyone who samples asbestos-containing materials should have as much information as possible on the handling of asbestos before sampling, and at a minimum, should observe the following procedures:

- Make sure no one else is in the room when sampling is done.
- Wear disposable gloves or wash hands after sampling.
- Shut down any heating or cooling systems to minimize the spread of any released fibers.
- Do not disturb the material any more than is needed to take a small sample.
- Place a plastic sheet on the floor below the area to be sampled.
- Wet the material using a fine mist of water containing a few drops of detergent before taking the sample.The water/detergent mist will reduce the release of asbestos fibers.



- Carefully cut a piece from the entire depth of the material using, for example, a small knife, corer, or other sharp object. Place the small piece into a clean container (for example, a 35 mm film canister, small glass or plastic vial, or high quality resealable plastic bag).
- Tightly seal the container after the sample is in it.
- Carefully dispose of the plastic sheet. Use a damp paper towel to clean up any material on the outside of the container or around the area sampled. Dispose of asbestos materials according to state and local procedures.
- Label the container with an identification number and clearly state when and where the sample was taken.
- Patch the sampled area with the smallest possible piece of duct tape to prevent fiber release.
- Send the sample to an EPA-approved laboratory for analysis. The National Institute for Standards and Technology (NIST) has a list of these laboratories. You can get this list from the Laboratory Accreditation Administration, NIST, Gaithersburg, MD 20899 (telephone 301-975-4016). Your state or local health department may also be able to help.

Sometimes the best way to deal with slightly damaged material is to limit access to the area and not touch or disturb it. Discard damaged or worn asbestos gloves, stove-top pads, or ironing board covers. Check with local health, environmental, or other appropriate officials to find out proper handling and disposal procedures.

If asbestos material is more than slightly damaged, or if you are going to make changes in your home that might disturb it, repair or removal by a professional is needed. Before you have your house remodeled, find out whether asbestos materials are present.

How To Manage An Asbestos Problem

If the asbestos material is in good shape and will not be disturbed, do nothing! If it is a problem, there are two types of corrections: repair and removal.

REPAIR usually involves either sealing or covering asbestos material.

Sealing (encapsulation) involves treating the material with a sealant that either binds the asbestos fibers together or coats the material so fibers are not released. Pipe, furnace, and boiler insulation can sometimes be repaired this way. This should be done only by a professional trained to handle asbestos safely.

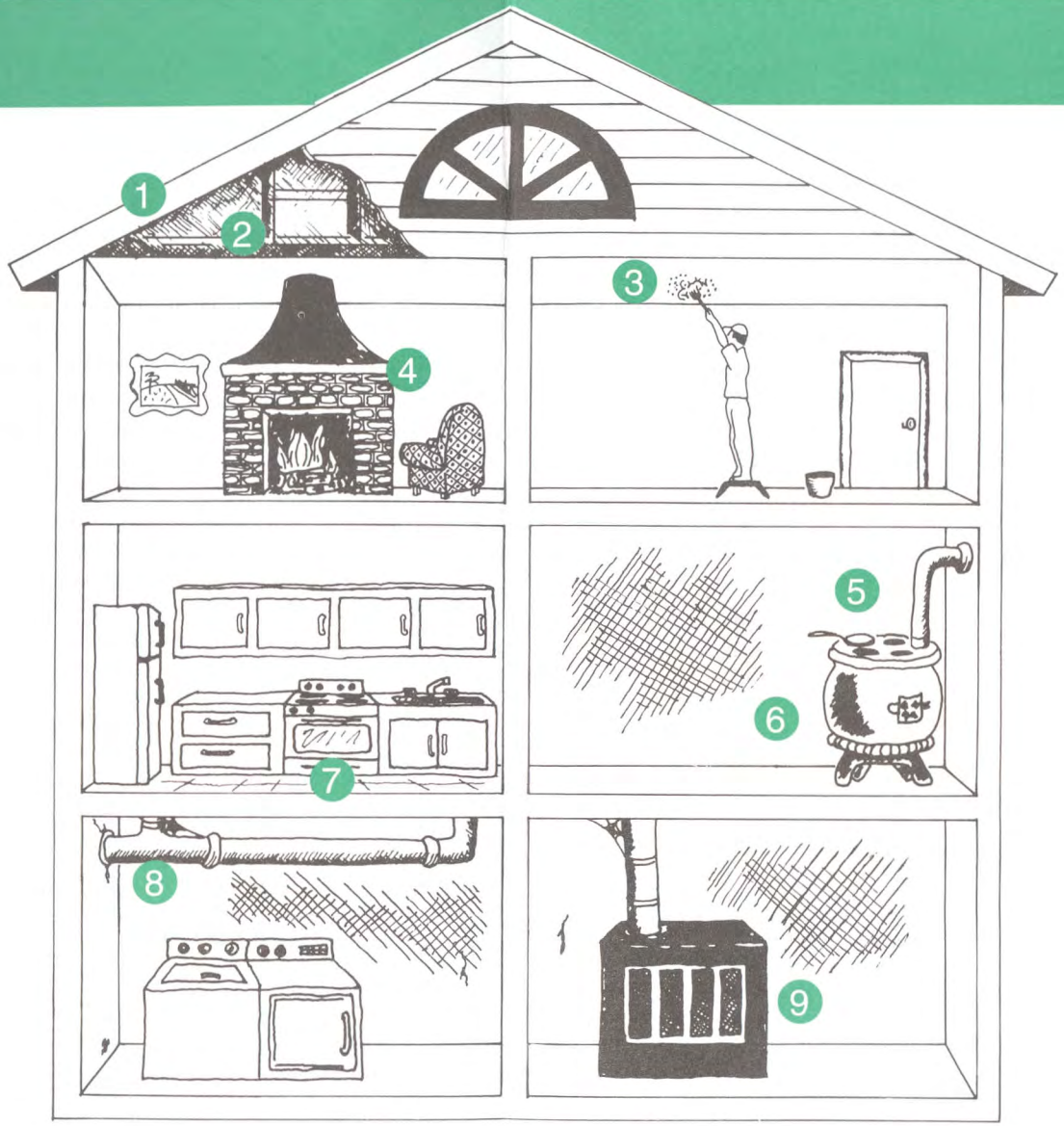
Covering (enclosure) involves placing something over or around the material that contains asbestos to prevent release of fibers. Exposed insulated piping may be covered with a protective wrap or jacket.

With any type of repair, the asbestos remains in place. Repair is usually cheaper than removal, but it may make later removal of asbestos, if necessary, more difficult and costly. Repairs can either be major or minor.

Asbestos Do's And Don'ts For The Homeowner

- Do keep activities to a minimum in any areas having damaged material that may contain asbestos.
- Do take every precaution to avoid damaging asbestos material.
- Do have removal and major repair done by people trained and qualified in handling asbestos. It is highly recommended that sampling and minor repair also be done by asbestos professionals.
- Don't dust, sweep, or vacuum debris that may contain asbestos.
- Don't saw, sand, scrape, or drill holes in asbestos materials.

- Don't use abrasive pads or brushes on power strippers to strip wax from asbestos flooring.
Never use a power stripper on a dry floor.
- Don't sand or try to level asbestos flooring or its backing. When asbestos flooring needs replacing, install new floorcovering over it, if possible.
- Don't track material that could contain asbestos through the house. If you cannot avoid walking through the area, have it cleaned with a wet mop. If the material is from a damaged area, or if a large area must be cleaned, call an asbestos professional.



Where Asbestos Hazards May Be Found In The Home

1. Some **roofing and siding shingles** are made of asbestos cement.
2. Houses built between 1930 and 1950 may have asbestos as **insulation.**
3. Asbestos may be present in **textured paint** and in **patching compounds** used on wall and ceiling joints. Their use was banned in 1977.
4. Artificial ashes and embers sold for use in gas-fired fireplaces may contain asbestos.
5. Older products such as **stove-top pads** may have some asbestos compounds.
6. Walls and floors around woodburning stoves may be protected with **asbestos paper, millboard, or cement sheets.**
7. Asbestos is found in some **vinyl floor tiles** and the backing on vinyl sheet flooring and **adhesives.**
8. Hot water and steam pipes in older houses may be coated with an asbestos material or covered with an asbestos blanket or tape.
9. Oil and coal furnaces and door gaskets may have asbestos **insulation.**

Major repairs must be done only by a professional trained in methods for safely handling asbestos.

Minor repairs should also be done by professionals since there is always a risk of exposure to fibers when asbestos is disturbed.

Doing minor repairs yourself is not recommended since improper handling of asbestos materials can create a hazard where none existed. If you nevertheless choose to do minor repairs you should have as much information as possible on the handling of asbestos before doing anything. Contact your state or local health department or regional EPA office for information about asbestos training programs in your area. Your local school district may also have information about asbestos professionals and training programs for school buildings. Even if you have completed a training program, do not try anything more than minor repairs. Before undertaking minor repairs, carefully examine the area around the damage to make sure it is stable. As a general matter, any damaged area which is bigger than the size of your hand is not a minor repair.

Before undertaking minor repairs, be sure to follow all the precautions described earlier for sampling asbestos material. Always wet the asbestos material using a fine mist of water containing a few drops of detergent. Commercial products designed to fill holes and seal damaged areas are available. Small areas of material such as pipe insulation can be covered by wrapping a special fabric, such as rewettable glass cloth, around it. These products are available from stores (listed in the telephone directory under "Safety Equipment and Clothing") which specialize in asbestos materials and safety items.

REMOVAL is usually the most expensive method and, unless required by state or local regulations, should be the last option considered in most situations. This is because removal poses the greatest risk of fiber release. However, removal may be required when remodeling or making major changes to your home that will disturb asbestos material. Also, removal may be called for if asbestos material is damaged extensively and cannot be otherwise repaired. Removal is complex and must be done only by a contractor with special training. Improper removal may actually increase the health risks to you and your family.

Asbestos Professionals: Who Are They, And What Can They Do?

Asbestos professionals are trained in handling asbestos material. The type of professional will depend on the type of product and what needs to be done to correct the problem. You may hire a general asbestos contractor or, in some cases, a professional trained to handle specific products containing asbestos.

Asbestos professionals can conduct home inspections, take samples of suspected material, assess its condition, and advise about what corrections are needed and who is qualified to make these corrections. Once again, material in good condition need not be sampled unless it is likely to be disturbed. Professional correction or abatement contractors repair or remove asbestos materials.

Some firms offer combinations of testing, assessment, and correction. A professional hired to assess the need for corrective action should not be connected with an asbestos-correction firm. It is better to use two different firms so there is no conflict of interest. Services vary from one area to another around the country.

The federal government has training courses for asbestos professionals around the country. Some state and local governments also have or require training or certification courses. Ask asbestos professionals to document their completion of federal or state-approved training. Each person performing work in your home should provide proof of training and licensing in asbestos work, such as completion of EPA-approved training. State and local health departments or EPA regional offices may have listings of licensed professionals in your area.

If you have a problem that requires the services of asbestos professionals, check their credentials carefully. Hire professional who are trained, experienced, reputable, and accredited - especially if accreditation is required by state or local laws. Before hiring a professional, ask for references from previous clients. Find out if they were satisfied. Ask whether the professional has handled similar situations. Get cost estimates from several professionals, as the charges for these services can vary.

Though private homes are usually not covered by the asbestos regulations that apply to schools and public buildings, professionals should still use procedures described during federal or state-approved training. Homeowners should be alert to the chance of misleading claims by asbestos consultants and contractors. There have been reports of firms incorrectly claiming that asbestos materials in homes must be replaced. In other cases, firms have encouraged unnecessary removals or performed them improperly. Unnecessary removals are a waste of money. Improper removals may actually increase the health risks to you and your family. To guard against this, know what services are available and what procedures and precautions are needed to do the job properly.

In addition to general asbestos contractors, you may select a roofing, flooring, or plumbing contractor trained to handle asbestos when it is necessary to remove and replace roofing, flooring, siding, or asbestos-cement pipe that is part of a water system. Normally, roofing and flooring contractors are exempt from state and local licensing requirements because they do not perform any other asbestos-correction work. Call 1-800-USA-ROOF for names of qualified roofing contractors in your area. (Illinois residents call 708-318-6722.) For information on asbestos in floors, read "Recommended Work Procedures for Resilient Floor Covers." You can write for a copy from the Resilient Floor Covering Institute, 966 Hungerford Drive, Suite 12-B, Rockville, MD 20850. Enclose a stamped, business-size, self-addressed envelope.

Asbestos-containing automobile brake pads and linings, clutch facings, and gaskets should be repaired and replaced only by a professional using special protective equipment. Many of these products are now available without asbestos. For more information, read "Guidance for Preventing Asbestos Disease Among Auto Mechanics," available from regional EPA offices.

If You Hire A Professional Asbestos Inspector

- Make sure that the inspection will include a complete visual examination and the careful collection and lab analysis of samples. If asbestos is present, the inspector should provide a written evaluation describing its location and extent of damage, and give recommendations for correction or prevention.
- Make sure an inspecting firm makes frequent site visits if it is hired to assure that a contractor follows proper procedures and requirements. The inspector may recommend and perform checks after the correction to assure the area has been properly cleaned.

If You Hire A Corrective-Action Contractor

- Check with your local air pollution control board, the local agency responsible for worker safety, and the Better Business Bureau. Ask if the firm has had any safety violations. Find out if there are legal actions filed against it.

- Insist that the contractor use the proper equipment to do the job. The workers must wear approved respirators, gloves, and other protective clothing.
- Before work begins, get a written contract specifying the work plan, cleanup, and the applicable federal, state, and local regulations which the contractor must follow (such as notification requirements and asbestos disposal procedures). Contact your state and local health departments, EPA's regional office, and the Occupational Safety and Health Administration's regional office to find out what the regulations are. Be sure the contractor follows local asbestos removal and disposal laws. At the end of the job, get written assurance from the contractor that all procedures have been followed.
- Assure that the contractor avoids spreading or tracking asbestos dust into other areas of your home. They should seal the work area from the rest of the house using plastic sheeting and duct tape, and also turn off the heating and air conditioning system. For some repairs, such as pipe insulation removal, plastic glove bags may be adequate. They must be sealed with tape and properly disposed of when the job is complete.
- Make sure the work site is clearly marked as a hazard area. Do not allow household members and pets into the area until work is completed.
- Insist that the contractor apply a wetting agent to the asbestos material with a hand sprayer that creates a fine mist before removal. Wet fibers do not float in the air as easily as dry fibers and will be easier to clean up.
- Make sure the contractor does not break removed material into small pieces. This could release asbestos fibers into the air. Pipe insulation was usually installed in preformed blocks and should be removed in complete pieces.
- Upon completion, assure that the contractor cleans the area well with wet mops, wet rags, sponges, or HEPA (high efficiency particulate air) vacuum cleaners. A regular vacuum cleaner must never be used. Wetting helps reduce the chance of spreading asbestos fibers in the air. All asbestos materials and disposable equipment and clothing used in the job must be placed in sealed, leakproof, and labeled plastic bags. The work site should be visually free of dust and debris. Air monitoring (to make sure there is no increase of asbestos fibers in the air) may be necessary to assure that the contractor's job is done properly. This should be done by someone not connected with the contractor.

Caution!

Do not dust, sweep, or vacuum debris that may contain asbestos. These steps will disturb tiny asbestos fibers and may release them into the air. Remove dust by wet mopping or with a special HEPA vacuum cleaner used by trained asbestos contractors.

For more information, contact your local American Lung Association for copies of:

- *Indoor Air Pollution Fact Sheet - Asbestos*
- *Air Pollution In Your Home?*
- Other publications on indoor pollution

For more information on asbestos in other consumer products, call the CPSC Hotline or write to the U.S. Consumer Product Safety Commission, Washington, DC 20207. The CPSC Hotline has information on certain appliances and products, such as the brands and models of hairdryers that contain asbestos. Call CPSC at 1-800-638-CPSC. A teletypewriter (TTY) for the hearing impaired is available at 1-800-638-8270. The Maryland TTY number is 1-800-492-8104.

To find out whether your state has a training and certification program for asbestos removal contractors, and for information on EPA's asbestos programs, call the EPA at 202-554-1404.

For more information on asbestos identification and control activities, contact the Asbestos Coordinator in the EPA Regional Office for your region, or your state or local health department.

Alaska Weatherization Assistance Program

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Client No.	Client Name	Staff Initials

Residence Address	City

Asbestos Education

Confirmation of Receipt

I certify that I have received a copy of the pamphlet *Asbestos in Your Home*, informing me of the potential risk of existing asbestos-containing materials in my dwelling unit. I have received this pamphlet prior to any weatherization work.

Printed Name of Recipient	Signature	Date

United States Environmental Protection Agency

EPA 402/F-16/002 | July 2016

BASIC RADON FACTS

The U.S. Surgeon General recommends ALL homes be tested for radon gas.

Breathing radon in your home can cause lung cancer

Radon is a naturally occurring radioactive gas released in rock, soil and water that can build up to dangerous levels inside any home; this means new and old homes, well sealed and drafty homes, and homes with or without a basement. Radon gas is odorless and invisible and the only way to know if your home has a radon problem is to test for it.

Breathing radon can increase your risk of lung cancer. Radon is the number one cause of lung cancer among people who do not smoke. It is the second leading cause of lung cancer for people who do. EPA estimates that radon causes more than 20,000 deaths from lung cancer each year in the U.S. If you smoke and your home has a high radon level, your risk of lung cancer can increase even more.

Radon has been found in every state

Homes with high levels of radon have been found in every state. In fact, radon levels can vary greatly from home to home--even levels next door can be very different.

Radon is measured in picocuries per liter of air (pCi/L), a measurement of radioactivity. In the United States, the average indoor radon level is about 1.3 pCi/L. The average outdoor level is about 0.4 pCi/L. The U.S. Surgeon General and EPA recommend fixing homes with radon levels at or above 4 pCi/L. EPA also recommends that people think about fixing their homes for radon levels between 2 pCi/L and 4 pCi/L.

You should test for radon

Testing your house for radon is easy. If your house has a radon problem, it can be fixed. Fixing a radon problem reduces the risk of lung cancer for you and your family.

A simple test will tell you if your home has a high radon level. Most radon tests last between 2 and 7 days. It's as easy as opening a package, and putting the test kit in the right place. After sending the test kit back to the address in the package, the company will send your radon test results in about 2 weeks.

Radon is a serious health risk. It can be reduced easily and cost-effectively. Take action today. Encourage your friends and family members to do the same!

Many local home improvement or hardware stores sell test kits. Test kits can be ordered online too. Sometimes you can get a test kit from your state radon office. You also can hire a qualified tester to do a radon test for you. Your state radon program may keep a list of these professionals.

Kansas State University, under a cooperative agreement with EPA, provides national radon program services, including selling radon test kits and answering toll-free radon hotlines. For more information about radon testing call 1-800-SOS-RADON (1-800-767-7236) or visit https://www.epa.gov/radon/find-radon-test-kit-or-measurement-and-mitigation-professional.

How to Get Radon Test Kits

To get an easy-to-use radon test kit, you can:

- ❒ Buy a test kit online or at your local home improvement or hardware store. Many kits are priced under $25.00.
- ❒ Order a test kit at www.sosradon.org or by calling 1-800-SOS-RADON (1-800-767-7236).
- ❒ Request a test kit from your state radon program, which also has information on radon testing companies and laboratories in your area. Visit https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information.

You can fix a radon problem

Help is available to fix a radon problem. You can call your state radon office to find qualified radon mitigators in your area. Also local companies with radon mitigators are in the phone book or online. The cost to reduce radon depends on how your home was built and how you use it. Most homes can be fixed for about the same cost as other common home repairs.

New homes can be built with radon-resistant features

Building new homes with simple and cost-effective radon-resistant features can reduce radon entry. Contact your builder or visit https://www.epa.gov/radon/radon-resistant-construction-basics-and-techniques for more information.

Every home should be tested before, or soon after, you move in. Even homes built with radon-resistant construction features should be tested. If high radon levels are found, it is easier and costs less to reduce radon levels in homes that are built radon-resistant.

The space below can be used for local contact or business information.

Place Logo Here

Alaska Weatherization Assistance Program

[Grantee]
[Mailing Address / Office Address]
[Phone/Fax/URL/Email]

Client No.	Client Name	Staff Initials

Residence Address	City

Radon Education

Confirmation of Receipt

I certify that I have received a copy of the EPA factsheet, *Basic Radon Facts*, informing me of the potential risk of radon in my dwelling unit. I have received this pamphlet prior to any weatherization work.

Printed Name of Recipient	Signature	Date

HEALTH AND SAFETY NOTIFICATION

Date: **Client Number:**

Client Name:

Address:

[Agency name] would like to bring to your attention the following health and safety concerns we observed while assisting you with the Alaska Weatherization Assistance Program:

[Agency name] focuses on the thermal qualities of the home and health or safety risks that pertain to the work we do. We do NOT inspect the home for overall code compliance or the condition of all building components. If deemed necessary, the Client/Owner/Landlord should consult with a Certified Inspector or City Official concerning the above list for more details and course of remediation. The Owner/Landlord of the property should address the above items immediately.

I certify that I have read the above and understand that [Agency name] compiled the list above as a notification and is NOT under any obligation to fix any of the above items. It is the Owner's responsibility to address the items as soon as possible unless otherwise indicated above.

Client Signature: Date:

Agency Representative Signature: Date:

LEAD BASED PAINT ACTIVITIES

CLIENT NAME: _____

JOB #:_____

LBP TEST RESULTS (if applicable):_____

_____

_____

_____

ACTION TAKEN: (Briefly describe; e.g., lead safe work practices used, not disturbing de minimis levels, negative test results, etc.):

_____

_____

LEAD SAFE WX PRACTICES: I certify that Lead Safe Weatherization Practices as prescribed in the Weatherization Operations Manual were used on this home during the course of completing weatherization activities.

Briefly describe: _____

_____

_____

_____

Signed: _____ Date: _____

Title: _____

Mold Present During Weatherization Assessment Form

Mold can be a problem in any home, but especially in those where there is an excessive amount of moisture or humidity present, plumbing problems, roof problems and/or poor water drainage around the home. The weatherization assessment on your home was to document thermal properties of your home and is not a mold inspection and the person making this assessment is not a mold inspector.

During the weatherization assessment on _____ date, the assessor observed what appears to be mold growth in the following room(s) of your home located at: _____

□ Living/Bedroom Areas
□ Laundry Areas
□ Crawlspace Areas
□ Basement Areas
□ Bathroom Areas
□ Combustion Areas
□ Attic Areas .
□ Other Location

Other Location: _____

Moldy or musty odors are an indicator that there may be hidden mold growth.

Moldy or Musty Odors □ Are present. □ Are not present.

The U.S. Department of Energy does not allow Weatherization agencies to remedy mold problems, but some actions associated with a cost effective energy saving measure may be taken to reduce moisture problems. We will take the following measures that may help to resolve existing moisture problems:

□ _____
□ _____
□ _____
□ _____

□ **Moisture/Mold Disclaimer**: By signing below, I acknowledge that I have received information concerning moisture and mold conditions in my home prior to any weatherization work being done. I understand taking steps to reduce excessive moisture or fix water problems immediately – including drying out wet construction products helps prevent mold growth. I agree to hold Interior Weatherization, Inc., Alaska Housing Finance Corporation, and Department of Energy harmless for any existing and/or future moisture or mold problems.

_____ _____
Weatherization Client Date

_____ _____
Agency Auditor / Estimator Date

Pollution Source Survey

Client No. _____ Date: _____

Client Name: _____

Assesor: _____

High-Risk Household Members

1) Family members less than 4 or more than 60 yrs old Yes ___ No ___
2) Any household members with asthma, respiratory problems or flu like symptoms? Yes ___ No ___
3) Is anyone living in the house pregnant? Yes ___ No ___

Source of Contaminants Comments:

How old is the home? _____

4) Paint peeling or flaking on floors, walls, ceilings? Yes ___ No ___ _____
5) Has carpet ever been water soaked? Yes ___ No ___ _____
6) Is carpet covering a concrete floor? Yes ___ No ___ _____
7) Any unvented combustion appliances in the home? Yes ___ No ___ _____
8) Do household members smoke inside the home? Yes ___ No ___ _____
9) Do cars park in attached garage? Yes ___ No ___ _____
10) Seasonal water pooling in crawl space? Yes ___ No ___ _____
11) Plumbing leaks in crawlspace? Yes ___ No ___ _____
12) Noticeable leaks or water staining on ceilings or walls? Yes ___ No ___ _____
13) Indoor pets? Yes ___ No ___ _____
14) Paints, solvents, thinners, pesticides stored in home? Yes ___ No ___ _____
15) House keeping problems? Cluttter / Unsanitary Yes ___ No ___ _____
16) Has this house been tested for Radon? Yes ___ No ___ _____
17) Are Insecticides or rodenticides used in home or ductwork? Yes ___ No ___ _____
18) Evidence of Pest infestation? Comment on location Yes ___ No ___ _____
19) Evidence of Radon mitigation? Yes ___ No ___ _____

Strengths of Indoor Contaminants Comments

20) Unusual odors in the house? Yes ___ No ___ _____
21) Is moisture noticeable on windows? Yes ___ No ___ _____
22) Visible mold anywhere in house? Yes ___ No ___ _____
23) House temp. unusually warm or cold Yes ___ No ___ _____
24) Humidity levels unusually high? Yes ___ No ___ _____

THE LEAD-SAFE CERTIFIED GUIDE TO RENOVATE RIGHT

Important lead hazard information for families, child care providers and schools.

EPA

LEAD-SAFE EPA CERTIFIED FIRM

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

EPA

1-800-424-LEAD (5323)
epa.gov/getleadsafe
EPA-740-K-10-001
Revised September 2011

This document may be purchased through the **U.S. Government Printing Office** online at bookstore.gpo.gov or by phone (toll-free): **1-866-512-1800**.

IT'S THE LAW!

Federal law requires contractors that disturb painted surfaces in homes, child care facilities and schools built before 1978 to be certified and follow specific work practices to prevent lead contamination. Always ask to see your contractor's certification.

Federal law requires that individuals receive certain information before renovating more than six square feet of painted surfaces in a room for interior projects or more than twenty square feet of painted surfaces for exterior projects or window replacement or demolition in housing, child care facilities and schools built before 1978.

- Homeowners and tenants: renovators must give you this pamphlet before starting work.
- Child care facilities, including preschools and kindergarten classrooms, and the families of children under six years of age that attend those facilities: renovators must provide a copy of this pamphlet to child care facilities and general renovation information to families whose children attend those facilities.

WHO SHOULD READ THIS PAMPHLET?

This pamphlet is for you if you:

- Reside in a home built before 1978.
- Own or operate a child care facility, including preschools and kindergarten classrooms, built before 1978, or
- Have a child under six years of age who attends a child care facility built before 1978.

You will learn:

- Basic facts about lead and your health.
- How to choose a contractor, if you are a property owner.
- What tenants, and parents/guardians of a child in a child care facility or school should consider.
- How to prepare for the renovation or repair job.
- What to look for during the job and after the job is done.
- Where to get more information about lead.

This pamphlet is not for:

- **Abatement projects.** Abatement is a set of activities aimed specifically at eliminating lead or lead hazards. EPA has regulations for certification and training of abatement professionals. If your goal is to eliminate lead or lead hazards, contact the National Lead Information Center at **1-800-424-LEAD (5323)** for more information.
- **"Do-it-yourself"** projects. If you plan to do renovation work yourself, this document is a good start, but you will need more information to complete the work safely. Call the National Lead Information Center at **1-800-424-LEAD (5323)** and ask for more information on how to work safely in a home with lead-based paint.
- **Contractor education.** Contractors who want information about working safely with lead should contact the National Lead Information Center at **1-800-424-LEAD (5323)** for information about courses and resources on lead-safe work practices.

RENOVATING, REPAIRING, OR PAINTING?

- Is your home, your building, or the child care facility or school your children attend being renovated, repaired, or painted?
- Was your home, your building, or the child care facility or school where your children under six years of age attend built before 1978?

If the answer to these questions is YES, there are a few important things you need to know about lead-based paint.

This pamphlet provides basic facts about lead and information about lead safety when work is being done in your home, your building or the child care facility or school your children attend.

The Facts About Lead

- Lead can affect children's brains and developing nervous systems, causing reduced IQ, learning disabilities, and behavioral problems. Lead is also harmful to adults.
- Lead in dust is the most common way people are exposed to lead. People can also get lead in their bodies from lead in soil or paint chips. Lead dust is often invisible.
- Lead-based paint was used in more than 38 million homes until it was banned for residential use in 1978.
- Projects that disturb painted surfaces can create dust and endanger you and your family. Don't let this happen to you. Follow the practices described in this pamphlet to protect you and your family.

LEAD AND YOUR HEALTH

Lead is especially dangerous to children under six years of age.

Lead can affect children's brains and developing nervous systems, causing:

- Reduced IQ and learning disabilities.
- Behavior problems.

Even children who appear healthy can have dangerous levels of lead in their bodies.

Lead is also harmful to adults. In adults, low levels of lead can pose many dangers, including:

- High blood pressure and hypertension.
- Pregnant women exposed to lead can transfer lead to their fetuses. Lead gets into the body when it is swallowed or inhaled.
- People, especially children, can swallow lead dust as they eat, play, and do other normal hand-to-mouth activities.
- People may also breathe in lead dust or fumes if they disturb lead-based paint. People who sand, scrape, burn, brush, blast or otherwise disturb lead-based paint risk unsafe exposure to lead.

What should I do if I am concerned about my family's exposure to lead?

- A blood test is the only way to find out if you or a family member already has lead poisoning. Call your doctor or local health department to arrange for a blood test.
- Call your local health department for advice on reducing and eliminating exposures to lead inside and outside your home, child care facility or school.
- Always use lead-safe work practices when renovation or repair will disturb painted surfaces.

For more information about the health effects of exposure to lead, visit the EPA lead website at epa.gov/lead/pubs/leadinfo or call **1-800-424-LEAD (5323)**.

There are other things you can do to protect your family every day.

- Regularly clean floors, window sills, and other surfaces.
- Wash children's hands, bottles, pacifiers, and toys often.
- Make sure children eat a healthy, nutritious diet consistent with the USDA's dietary guidelines, that helps protect children from the effects of lead.
- Wipe off shoes before entering the house.

WHERE DOES THE LEAD COME FROM?

Dust is the main problem.

The most common way to get lead in the body is from dust. Lead dust comes from deteriorating lead-based paint and lead-contaminated soil that gets tracked into your home. This dust may accumulate to unsafe levels. Then, normal hand to-mouth activities, like playing and eating (especially in young children), move that dust from surfaces like floors and window sills into the body.

Home renovation creates dust.

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips.

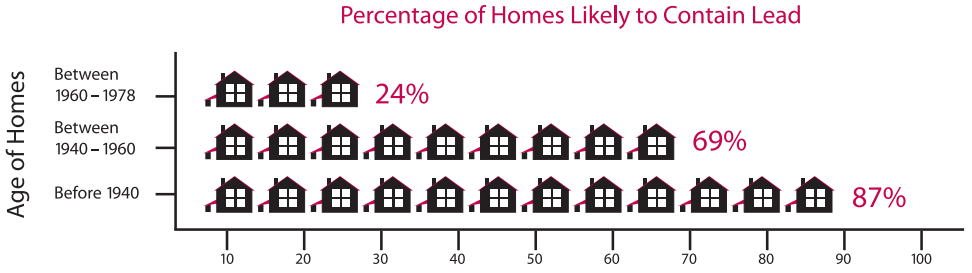
Proper work practices protect you from the dust.

The key to protecting yourself and your family during a renovation, repair or painting job is to use lead-safe work practices such as containing dust inside the work area, using dust-minimizing work methods, and conducting a careful cleanup, as described in this pamphlet.

Other sources of lead.

Remember, lead can also come from outside soil, your water, or household items (such as lead-glazed pottery and lead crystal). Contact the National Lead Information Center at **1-800-424-LEAD (5323)** for more information on these sources.

CHECKING YOUR HOME FOR LEAD-BASED PAINT



Older homes, child care facilities, and schools are more likely to contain lead-based paint.

Homes may be single-family homes or apartments. They may be private, government-assisted, or public housing. Schools are preschools and kindergarten classrooms. They may be urban, suburban, or rural.

You have the following options:

You may decide to assume your home, child care facility, or school contains lead. Especially in older homes and buildings, you may simply want to assume lead-based paint is present and follow the lead-safe work practices described in this brochure during the renovation, repair, or painting job.

You can hire a certified professional to check for lead-based paint. These professionals are certified risk assessors or inspectors, and can determine if your home has lead or lead hazards.

- A certified inspector or risk assessor can conduct an inspection telling you whether your home, or a portion of your home, has lead-based paint and where it is located. This will tell you the areas in your home where lead-safe work practices are needed.
- A certified risk assessor can conduct a risk assessment telling you if your home currently has any lead hazards from lead in paint, dust, or soil. The risk assessor can also tell you what actions to take to address any hazards.
- For help finding a certified risk assessor or inspector, call the National Lead Information Center at **1-800-424-LEAD (5323)**.

You may also have a certified renovator test the surfaces or components being disturbed for lead by using a lead test kit or by taking paint chip samples and sending them to an EPA-recognized testing laboratory. Test kits must be EPA-recognized and are available at hardware stores. They include detailed instructions for their use.

FOR PROPERTY OWNERS

You have the ultimate responsibility for the safety of your family, tenants, or children in your care.

This means properly preparing for the renovation and keeping persons out of the work area (see p. 8). It also means ensuring the contractor uses lead-safe work practices.

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes, child care facilities, and schools built before 1978 be certified and follow specific work practices to prevent lead contamination.

Make sure your contractor is certified, and can explain clearly the details of the job and how the contractor will minimize lead hazards during the work.

- You can verify that a contractor is certified by checking EPA's website at epa.gov/getleadsafe or by calling the National Lead Information Center at **1-800-424-LEAD (5323)**. You can also ask to see a copy of the contractor's firm certification.
- Ask if the contractor is trained to perform lead-safe work practices and to see a copy of their training certificate.
- Ask them what lead-safe methods they will use to set up and perform the job in your home, child care facility or school.
- Ask for references from at least three recent jobs involving homes built before 1978, and speak to each personally.

Always make sure the contract is clear about how the work will be set up, performed, and cleaned.

- Share the results of any previous lead tests with the contractor.
- You should specify in the contract that they follow the work practices described on pages 9 and 10 of this brochure.
- The contract should specify which parts of your home are part of the work area and specify which lead-safe work practices will be used in those areas. Remember, your contractor should confine dust and debris to the work area and should minimize spreading that dust to other areas of the home.
- The contract should also specify that the contractor will clean the work area, verify that it was cleaned adequately, and re-clean it if necessary.

If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Direct the contractor to comply with regulatory and contract requirements.
- Call your local health or building department, or
- Call EPA's hotline **1-800-424-LEAD (5323)**.

If your property receives housing assistance from HUD (or a state or local agency that uses HUD funds), you must follow the requirements of HUD's Lead-Safe Housing Rule and the ones described in this pamphlet.

FOR TENANTS AND FAMILIES OF CHILDREN UNDER SIX YEARS OF AGE IN CHILD CARE FACILITIES AND SCHOOLS

You play an important role ensuring the ultimate safety of your family.

This means properly preparing for the renovation and staying out of the work area (see p. 8).

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes built before 1978 and in child care facilities and schools built before 1978, that a child under six years of age visits regularly, to be certified and follow specific work practices to prevent lead contamination.

The law requires anyone hired to renovate, repair, or do painting preparation work on a property built before 1978 to follow the steps described on pages 9 and 10 unless the area where the work will be done contains no lead-based paint.

If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Contact your landlord.
- Call your local health or building department, or
- Call EPA's hotline **1-800-424-LEAD (5323)**.

If you are concerned about lead hazards left behind after the job is over, you can check the work yourself (see page 10).

PREPARING FOR A RENOVATION

The work areas should not be accessible to occupants while the work occurs.

The rooms or areas where work is being done may need to be blocked off or sealed with plastic sheeting to contain any dust that is generated. Therefore, the contained area may not be available to you until the work in that room or area is complete, cleaned thoroughly, and the containment has been removed. Because you may not have access to some areas during the renovation, you should plan accordingly.

You may need:

- Alternative bedroom, bathroom, and kitchen arrangements if work is occurring in those areas of your home.
- A safe place for pets because they too can be poisoned by lead and can track lead dust into other areas of the home.
- A separate pathway for the contractor from the work area to the outside in order to bring materials in and out of the home. Ideally, it should not be through the same entrance that your family uses.
- A place to store your furniture. All furniture and belongings may have to be moved from the work area while the work is being done. Items that can't be moved, such as cabinets, should be wrapped in plastic.
- To turn off forced-air heating and air conditioning systems while the work is being done. This prevents dust from spreading through vents from the work area to the rest of your home. Consider how this may affect your living arrangements.

You may even want to move out of your home temporarily while all or part of the work is being done.

Child care facilities and schools may want to consider alternative accommodations for children and access to necessary facilities.

DURING THE WORK

Federal law requires contractors that are hired to perform renovation, repair and painting projects in homes, child care facilities, and schools built before 1978 that disturb painted surfaces to be certified and follow specific work practices to prevent lead contamination.

The work practices the contractor must follow include these three simple procedures, described below:

1. **Contain the work area.** The area must be contained so that dust and debris do not escape from that area. Warning signs must be put up and plastic or other impermeable material and tape must be used as appropriate to:
   - Cover the floors and any furniture that cannot be moved.
   - Seal off doors and heating and cooling system vents.
   - For exterior renovations, cover the ground and, in some instances, erect vertical containment or equivalent extra precautions in containing the work area.

These work practices will help prevent dust or debris from getting outside the work area.

2. **Avoid renovation methods that generate large amounts of lead-contaminated dust.** Some methods generate so much lead-contaminated dust that their use is prohibited. They are:
   - Open flame burning or torching.
   - Sanding, grinding, planing, needle gunning, or blasting with power tools and equipment not equipped with a shroud and HEPA vacuum attachment.
   - Using a heat gun at temperatures greater than 1100°F.

There is no way to eliminate dust, but some renovation methods make less dust than others. Contractors may choose to use various methods to minimize dust generation, including using water to mist areas before sanding or scraping; scoring paint before separating components; and prying and pulling apart components instead of breaking them.

3. **Clean up thoroughly.** The work area should be cleaned up daily to keep it as clean as possible. When all the work is done, the area must be cleaned up using special cleaning methods before taking down any plastic that isolates the work area from the rest of the home. The special cleaning methods should include:
   - Using a HEPA vacuum to clean up dust and debris on all surfaces, followed by
   - Wet wiping and wet mopping with plenty of rinse water.

When the final cleaning is done, look around. There should be no dust, paint chips, or debris in the work area. If you see any dust, paint chips, or debris, the area must be re-cleaned.

FOR PROPERTY OWNERS: AFTER THE WORK IS DONE

When all the work is finished, you will want to know if your home, child care facility, or school where children under six attend has been cleaned up properly.

EPA Requires Cleaning Verification.

In addition to using allowable work practices and working in a lead-safe manner, EPA's RRP rule requires contractors to follow a specific cleaning protocol. The protocol requires the contractor to use disposable cleaning cloths to wipe the floor and other surfaces of the work area and compare these cloths to an EPA-provided cleaning verification card to determine if the work area was adequately cleaned. EPA research has shown that following the use of lead-safe work practices with the cleaning verification protocol will effectively reduce lead-dust hazards.

Lead-Dust Testing.

EPA believes that if you use a certified and trained renovation contractor who follows the LRRP rule by using lead-safe work practices and the cleaning protocol after the job is finished, lead-dust hazards will be effectively reduced. If, however, you are interested in having lead-dust testing done at the completion of your job, outlined below is some helpful information.

What is a lead-dust test?

- Lead-dust tests are wipe samples sent to a laboratory for analysis. You will get a report specifying the levels of lead found after your specific job.

How and when should I ask my contractor about lead-dust testing?

- Contractors are not required by EPA to conduct lead-dust testing. However, if you want testing, EPA recommends testing be conducted by a lead professional. To locate a lead professional who will perform an evaluation near you, visit EPA's website at epa.gov/lead/pubs/locate or contact the National Lead Information Center at **1-800-424-LEAD (5323).**

- If you decide that you want lead-dust testing, it is a good idea to specify in your contract, before the start of the job, that a lead-dust test is to be done for your job and who will do the testing, as well as whether re-cleaning will be required based on the results of the test.

- You may do the testing yourself. If you choose to do the testing, some EPA-recognized lead laboratories will send you a kit that allows you to collect samples and send them back to the laboratory for analysis. Contact the National Lead Information Center for lists of EPA-recognized testing laboratories.

FOR ADDITIONAL INFORMATION

You may need additional information on how to protect yourself and your children while a job is going on in your home, your building, or child care facility.

The National Lead Information Center at **1-800-424-LEAD (5323)** or epa.gov/lead/nlic can tell you how to contact your state, local, and/or tribal programs or get general information about lead poisoning prevention.

- State and tribal lead poisoning prevention or environmental protection programs can provide information about lead regulations and potential sources of financial aid for reducing lead hazards. If your state or local government has requirements more stringent than those described in this pamphlet, you must follow those requirements.

- Local building code officials can tell you the regulations that apply to the renovation work that you are planning.

- State, county, and local health departments can provide information about local programs, including assistance for lead-poisoned children and advice on ways to get your home checked for lead.

The National Lead Information Center can also provide a variety of resource materials, including the following guides to lead-safe work practices. Many of these materials are also available at epa.gov/lead/pubs/brochure

- Steps to Lead Safe Renovation, Repair and Painting.

- Protect Your Family from Lead in Your Home

- Lead in Your Home: A Parent's Reference Guide

For the hearing impaired, call the Federal Information Relay Service at 1-800-877-8339 to access any of the phone numbers in this brochure.

EPA CONTACTS

EPA Regional Offices

EPA addresses residential lead hazards through several different regulations. EPA requires training and certification for conducting abatement and renovations, education about hazards associated with renovations, disclosure about known lead paint and lead hazards in housing, and sets lead-paint hazard standards.

Your Regional EPA Office can provide further information regarding lead safety and lead protection programs at epa.gov/lead.

Region 1
(Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)
Regional Lead Contact
U.S. EPA Region 1
Suite 1100
One Congress Street
Boston, MA 02114-2023
(888) 372-7341

Region 2
(New Jersey, New York, Puerto Rico, Virgin Islands)
Regional Lead Contact
U.S. EPA Region 2
2890 Woodbridge Avenue
Building 205, Mail Stop 225
Edison, NJ 08837-3679
(732) 321-6671

Region 3
(Delaware, Maryland, Pennsylvania, Virginia, Washington, DC, West Virginia)
Regional Lead Contact
U.S. EPA Region 3
1650 Arch Street
Philadelphia, PA
19103-2029
(215) 814-5000

Region 4
(Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)
Regional Lead Contact
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303-8960
(404) 562-9900

Region 5
(Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)
Regional Lead Contact
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507
(312) 886-6003

Region 6
(Arkansas, Louisiana, New Mexico, Oklahoma, Texas)
Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue,
12th Floor
Dallas, TX 75202-2733
(214) 665-7577

Region 7
(Iowa, Kansas, Missouri, Nebraska)
Regional Lead Contact
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7003

Region 8
(Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)
Regional Lead Contact
U.S. EPA Region 8
1595 Wynkoop Street
Denver, CO 80202
(303) 312-6312

Region 9
(Arizona, California, Hawaii, Nevada)
Regional Lead Contact
U.S. Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-8021

Region 10
(Alaska, Idaho, Oregon, Washington)
Regional Lead Contact
U.S. EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101-1128
(206) 553-1200

OTHER FEDERAL AGENCIES

CPSC

The Consumer Product Safety Commission (CPSC) protects the public from the unreasonable risk of injury or death from 15,000 types of consumer products under the agency's jurisdiction. CPSC warns the public and private sectors to reduce exposure to lead and increase consumer awareness. Contact CPSC for further information regarding regulations and consumer product safety.

CPSC
4330 East West Highway
Bethesda, MD 20814
Hotline 1-(800) 638-2772
cpsc.gov

CDC Childhood Lead Poisoning Prevention Branch

The Centers for Disease Control and Prevention (CDC) assists state and local childhood lead poisoning prevention programs to provide a scientific basis for policy decisions, and to ensure that health issues are addressed in decisions about housing and the environment. Contact CDC Childhood Lead Poisoning Prevention Program for additional materials and links on the topic of lead.

CDC Childhood Lead Poisoning Prevention Branch
4770 Buford Highway, MS F-40
Atlanta, GA 30341
(770) 488-3300
cdc.gov/nceh/lead

HUD Office of Healthy Homes and Lead Hazard Control

The Department of Housing and Urban Development (HUD) provides funds to state and local governments to develop cost-effective ways to reduce lead-based paint hazards in America's privately-owned low-income housing. In addition, the office enforces the rule on disclosure of known lead paint and lead hazards in housing, and HUD's lead safety regulations in HUD-assisted housing, provides public outreach and technical assistance, and conducts technical studies to help protect children and their families from health and safety hazards in the home. Contact the HUD Office of Healthy Homes and Lead Hazard Control for information on lead regulations, outreach efforts, and lead hazard control research and outreach grant programs.

U.S. Department of Housing and Urban Development
Office of Healthy Homes and Lead Hazard Control
451 Seventh Street, SW, Room 8236
Washington, DC 20410-3000
HUD's Lead Regulations Hotline
(202) 402-7698
hud.gov/offices/lead/

SAMPLE PRE-RENOVATION FORM

This sample form may be used by renovation firms to document compliance with the Federal pre-renovation education and renovation, repair, and painting regulations.

Occupant Confirmation

Pamphlet Receipt

❑ I have received a copy of the lead hazard information pamphlet informing me of the potential risk of the lead hazard exposure from renovation activity to be performed in my dwelling unit. I received this pamphlet before the work began.

Printed Name of Owner-occupant

Signature of Owner-occupant | Signature Date

Renovator's Self Certification Option (for tenant-occupied dwellings only)

Instructions to Renovator: If the lead hazard information pamphlet was delivered but a tenant signature was not obtainable, you may check the appropriate box below.

❑ **Declined** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below at the date and time indicated and that the occupant declined to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit with the occupant.

❑ **Unavailable for signature** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below and that the occupant was unavailable to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit by sliding it under the door or by (fill in how pamphlet was left).

Printed Name of Person Certifying Delivery | Attempted Delivery Date

Signature of Person Certifying Lead Pamphlet Delivery

Unit Address

Note Regarding Mailing Option — As an alternative to delivery in person, you may mail the lead hazard information pamphlet to the owner and/or tenant. Pamphlet must be mailed at least seven days before renovation. Mailing must be documented by a certificate of mailing from the post office.

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Weatherization Assistance Program

Sponsored by

SUMMARY NOTICE OF LEAD-BASED PAINT INSPECTION

Address of property: _____

_____

Date of Inspection: _____

Summary of Inspection:

☐ **No lead-based paint was found**
☐ **Lead-based paint was found**

If lead-based paint was found please provide a brief summary below of its location. List at least the housing unit numbers and common areas (for multifamily housing), and building components (including type of room or space, and the material underneath the paint).

Contact person for more information or an actual copy of the inspection:

Name:	
Organization:	**Phone: ( )**
Street:	**City:**
State:	**Zip:**

Person who prepared this summary notice:

Name:	
Organization:	**Phone: ( )**
Street:	**City:**
State:	**Zip:**

_____ _____

Signature **Date**

Weatherization Operations Manual

Section 8. Materials Standards

1. **10 CFR 440 Appendix A—Standards for Weatherization Materials**
2. **Weatherization Materials Not Listed in 10 CFR 440, Appendix A**
3. **Alaska CDC Weatherization Project Specifications** [Optional]
4. **RurAl CAP "Attachment II Specifications for Materials Bid Package…"** [Optional]

ATTACHMENT 7
APPENDIX A TO PART 440
STANDARDS FOR WEATHERIZATION MATERIALS

[58 FR 12529, MAR. 4, 1993, AS AMENDED AT 69 FR 18803, APR. 9, 2004]

APPENDIX A TO PART 440—STANDARDS FOR WEATHERIZATION MATERIALS

The following Government standards are produced by the Consumer Product Safety Commission and are published in title 16, Code of Federal Regulations:

Thermal Insulating Materials for Building Elements Including Walls, Floors, Ceilings, Attics, and Roofs Insulation—organic fiber— conformance to Interim Safety Standard in 16 CFR part 1209;

Fire Safety Requirements for Thermal Insulating Materials According to Insulation Use—Attic Floor—insulation materials intended for exposed use in attic floors shall be capable of meeting the same flammability requirements given for cellulose insulation in 16 CFR part 1209;

Enclosed spaces—insulation materials intended for use within enclosed stud or joist spaces shall be capable of meeting the smoldering combustion requirements in 16 CFR part 1209.

The following standards which are not otherwise set forth in part 440 are incorporated by reference and made a part of part 440. The following standards have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on April 5, 1993 and a notice of any change in these materials will be published in the FEDERAL REGISTER. The standards incorporated by reference are available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: http://www.archives.gov/federallregister/codeloflfederallregulations/ibrllocations.html.

The standards incorporated by reference in part 440 can be obtained from the following sources:

Air Conditioning and Refrigeration Institute, 1501 Wilson Blvd., Arlington, VA 22209; (703) 524–8800.

American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209; (703) 841–8400.

American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018; (212) 642–4900.

American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017; (212) 705–7800.

American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103; (215) 299–5400.

American Architectural Manufacturers Association, 1540 East Dundee Road, Palatine, IL 60067; (708) 202–1350.

Federal Specifications, General Services Administration, Specifications Section, Room 6654, 7th and D Streets, SW, Washington, DC 20407; (202) 708–5082.

Gas Appliance Manufacturers Association, (703) 525–9565.

National Electrical Manufacturers Association, 2101 L Street, NW, Suite 300, Washington, DC 20037; (202) 457–8400.

National Fire Protection Association, Batterymarch Park, P.O. Box 9101, Quincy, MA 02269; (617) 770–3000.

National Standards Association, 1200 Quince Orchard Blvd., Gaithersburg, MD 20878; (301) 590–2300.
(NSA is a local contact for materials from ASTM).

National Wood Window and Door Association, 1400 East Touhy Avenue, Des Plaines, IL 60018; (708) 299–5200.

Sheet Metal and Air Conditioning Contractors Association, P.O. Box 221230, Chantilly, VA 22022–1230; (703) 803–2980.

Steel Door Institute, 712 Lakewood Center North, 14600 Detroit Avenue, Cleveland, OH 44107; (216) 899–0100.

Steel Window Institute, 1230 Keith Building, Cleveland, OH 44115; (216) 241–7333.

Tubular Exchanger Manufacturers Association, 25 North Broadway, Tarrytown, NY 10591; (914) 332–0040.

Underwriters Laboratories, Inc., P.O. Box 75530, Chicago, IL 60675–5330;

(708) 272–8800.

More information regarding the standards in this reference can be obtained from the following sources:

Environmental Protection Agency, 401 M Street, NW, Washington, DC 20006;

(202) 554–1080.

National Institute of Standards and Technology, U.S. Department of Commerce, Gaithersburg, MD 20899, (301) 975–2000

Weatherization Assistance Programs Division, Conservation and Renewable Energy, Mail Stop 5G–023, Forrestal Bldg, 1000 Independence Ave, SW, Washington, DC 20585; (202) 586–2207.

THERMAL INSULATING MATERIALS FOR BUILDING ELEMENTS INCLUDING WALLS, FLOORS, ATTICS, AND ROOFS

(Standards for conformance)

Insulation-mineral fiber:	
Blanket insulation	ASTM C665-98.
Roof insulation board	ASTM C726-00a.
Loose-fill insulation	ASTM C764-99.
Insulation-mineral cellular:	
Vermiculite loose-fill insulation	ASTM C516–80 (1990).
Perlite loose-fill insulation	ASTM C549–81 (1986).
Cellular glass insulation block	ASTM C552–88.
Perlite insulation board	ASTM C728–89a.
Insulation-organic fiber:	
Cellulosic fiber insulating board	ASTM C208–72 (1982).
Cellulose loose-fill insulation	ASTM C739–88.
Insulation-organic cellular:	
Preformed block-type polystyrene insulation	ASTM C578–87a.
Rigid preformed polyurethane insulation board	ASTM C591–85.
Polyurethane or polyisocyanurate insulation board faced with aluminum foil on both sides	FS HH-I–1972/1 (1981).
Polyurethane or polyisocyanurate insulation board faced with felt on both sides	FS HH-I–1972/2 (1981). And Amendment 1, October 3, 1985.
Insulation—composite boards:	
Mineral fiber and rigid cellular polyurethane composite roof insulation board	ASTM C726–88.
Perlite board and rigid cellular polyurethane composite roof insulation	ASTM C984–83.
Gypsum board and polyurethane or polisocyanurate composite board	FS HH–I–1972/4 (1981).
Materials used as a patch to reduce infiltration through the building envelope	Commercially available.

THERMAL INSULATING MATERIALS FOR PIPES, DUCTS, AND EQUIPMENT SUCH AS BOILERS AND FURNACES

(Standards for conformance)

Insulation—mineral fiber:	
Preformed pipe insulation	ASTM 1 C547–77.
Blanket and felt insulation (industrial type)	ASTM C553–70 (1977).
Blanket insulation and blanket type pipe insulation (metal-mesh.covered) (industrial type)	ASTM C592–80.
Block and board insulation	ASTM C612–83.
Spray applied fibrous insulation for elevated temperature	ASTM C720–89.
High-temperature fiber blanket insulation	ASTM C892–89.
Duct work insulation	Selected and applied according to ASTM C971–82.
Insulation—mineral cellular:	
Diatomaceous earth block and pipe insulation	ASTM C517–71 (1979)
Calcium silicate block and pipe insulation	ASTM C533–85 (1990).
Cellular glass insulation	ASTM C552–88.
Expanded perlite block and pipe insulation	ASTM C610–85.
Insulation—Organic Cellular:	
Preformed flexible elastomeric cellular insulation in sheet and tubular form	ASTM C534–88.
Unfaced preformed rigid cellular polyurethane insulation	ASTM C591–85.
Insulation skirting	Commercially available.

Fire Safety Requirements for Insulating Materials According to Insulation Use

(Standards for conformance)

Attic floor	Insulation materials intended for exposed use in attic floors shall be capable of meeting the same smoldering combustion requirements given for cellulose insulation in ASTM C739–88.
Enclosed space	Insulation materials intended for use within enclosed stud or joist spaces shall be capable of meeting the smoldering combustion requirements in ASTM C739–88.
Exposed interior walls and ceilings	Insulation materials, including those with combustible facings, which remain exposed and serve as wall or ceiling interior finish, shall have a flame spread classification not to exceed 150 (per ASTM E84–89a).
Exterior envelope walls and roofs	Exterior envelope walls and roofs containing thermal insulations shall meet applicable local government building code requirements for the complete wall or roof assembly.
Pipes, ducts, and equipment	Insulation materials intended for use on pipes, ducts and equipment shall be capable of meeting a flame spread classification not to exceed 150 (per ASTM E84–89a).

Storm Windows

(Standards for conformance)

Storm windows:	
Aluminum insulating storm windows	ANSI/AAMA 1002.10–83.
Aluminum frame storm windows	ANSI/AAMA 1002.10–83.
Wood frame storm windows	ANSI/NWWDA I.S. 2–87. (Section 3)
Rigid vinyl frame storm windows	ASTM D4099–89.
Frameless plastic glazing storm	Required minimum thickness windows is 6 mil (.006 inches).
Movable insulation systems for windows	Commercially available.

Storm Doors

(Standards for conformance)

Storm doors—Aluminum:	
Storm Doors	ANSI/AAMA 1102.7–89.
Sliding glass storm doors	ANSI/AAMA 1002.10–83.
Wood storm doors	ANSI/NWWDA I.S. 6–86.
Rigid vinyl storm doors	ASTM D3678–88.
Vestibules:	
Materials to construct vestibules	Commercially available.
Replacement windows:	
Aluminum frame windows	ANSI/AAMA 101–88.
Steel frame windows	Steel Window Institute recommended specifications for steel windows, 1990.
Wood frame windows	ANSI/NWWDA I.S. 2–87.
Rigid vinyl frame windows	ASTM D4099–89.

Replacement Doors

(Standards for conformance)

Replacement doors—Hinged doors:	
Steel doors	ANSI/SDI 100–1985.
Wood doors:	
Flush doors	ANSI/NWWDA I.S. 1–87. (exterior door provisions)
Pine, fir, hemlock and spruce doors	ANSI/NWWDA I.S. 6–86.
Sliding patio doors:	
Aluminum doors	ANSI/AAMA 101–88.
Wood doors	NWWDA I.S. 3–83.

CAULKS AND SEALANTS

(Standards for conformance)

Caulks and sealants:	
Putty	FS TT–P–00791B, October 16, 1969 and Amendment 2, March 23, 1971.
Glazing compounds for metal sash	ASTM C669–75 (1989).
Oil and resin base caulks	ASTM C570–72 (1989).
Acrylic (solvent types) sealants	FS TT–S–00230C, February 2, 1970 and Amendment 2, October 9, 1970.
Butyl rubber sealants	FS TT–S–001657, October 8, 1970.
Chlorosulfonated polyethylene sealants	FS TT–S–00230C, February 2, 1970 and Amendment 2, October 9, 1970.
Latex sealing compounds	ASTM C834–76 (1986).
Elastomeric joint sealants (normally considered to include polysulfide, polyurethane, and silicone)	ASTM C920–87.
Preformed gaskets and sealing materials	ASTM C509–84.

WEATHERSTRIPPING

(Standards for conformance)

Weatherstripping	Commercially available.
Vapor retarders	Selected according to the provisions cited in ASTM C755–85 (1990). Permeance not greater than 1 perm when determined according to the desiccant method described in ASTM E96–90.
Items to improve attic ventilation	Commercially available.
Clock thermostats	NEMA DC 3–1989.

HEAT EXCHANGERS

(Standards for conformance)

Heat exchangers, water-to-water and steam-to-water	ASME Boiler and Pressure Vessel Code, 1992, Sections II, V, VIII, IX, and X, as applicable to pressure vessels. Standards of Tubular Exchanger Manufacturers Association, Seventh Edition, 1988.
Heat exchangers with gas-fired appliances	Conformance to AGA Requirements for Heat Reclaimer Devices for Use with Gas-Fired Appliances No. 1–80, June 1, 1980. AGA Laboratories Certification Seal.
Heat pump water heating heat recovery systems	Electrical components to be listed by UL.

BOILER/FURNACE CONTROL SYSTEMS

(Standards for conformance)

Automatic set back thermostats	Listed by UL. Conformance to NEMA DC 3–1989.
Line voltage or low voltage room thermostats	NEMA DC 3–1989.
Automatic gas ignition systems	ANSI Z21.21–1987 and Z21.21a-1989. AGA Laboratories Certification Seal.
Energy management systems	Listed by UL.
Hydronic boiler controls	Listed by UL.
Other burner controls	Listed by UL.

WATER HEATER MODIFICATIONS

(Standards for conformance)

Insulate tank and distribution piping	(See insulation section of this appendix).
Install heat traps on inlet and outlet piping	Applicable local plumbing code.
Install/replace water heater heating elements	Listed by UL.
Electric, freeze-prevention tape for pipes	Listed by UL.
Reduce thermostat settings	State or local recommendations.
Install stack damper, gas-fueled	ANS1 Z21.66–1988, including Exhibits A&B, and ANSI Z223.1–1988.
Install stack damper, oil-fueled	UL 17, November 28, 1988, and NFPA 31–1987.
Install water flow modifiers	Commercially available.

WASTE HEAT RECOVERY DEVICES

(Standards for conformance)

Desuperheater/water heaters	ARI 470–1987.
Condensing heat exchangers	Commercially available components and in new heating furnace systems to manufacturers' specifications.
Condensing heat exchangers	Commercially available (Commercial, multi-story building, with teflon-lined tubes institutional) to manufacturers' specifications.
Energy recovery equipment	Energy Recovery Equipment and Systems Air-to-Air (1978) Sheet Metal and Air-Conditioning Contractors National Association (SMACNA).

BOILER REPAIR AND MODIFICATIONS/EFFICIENCY IMPROVEMENTS

(Standards for conformance)

Install gas conversion burners	ANSI Z21.8–1984, (for gas or oil-fired systems), ANSI Z21.17–1984, ANSI Z21.17a-1990, and ANSI Z223.1–1988. AGA Laboratories Certification seal.
Replace oil burner	UL 296, February 28, 1989 Revision and NFPA 31–1987.
Install burners (oil/gas)	ANSI Z223.1–1988 for gas equipment and NFPA 31–1987 for oil equipment.
Re-adjust boiler water temperature or install automatic boiler temperature reset control	ASME CSD–1–1988, ASME CSD–1a-1989, ANSI Z223.1–1988, and NFPA 31–1987.
Replace/modify boilers	ASME Boiler and Pressure Vessel Code, 1992, Sections II, IV, V, VI, VIII, IX, and X. Boilers must be Institute of Boilers and Radiation Manufacturers (IBR) equipment.
Clean heat exchanger, adjust burner air shutter(s), check smoke no. on oil-fueled equipment. Check operation of pump(s) and replacement filters	Per manufacturers' instructions.
Repair combustion chambers	Refractory linings may be required for conversions.
Replace heat exchangers, tubes	Protection from flame contact with conversion burners by refractory shield.
Install/replace thermostatic radiator valves	Commercially available. One pipe steam systems require air vents on each radiator; see manufacturers' requirements.
Install boiler duty cycle control system	Commercially available. NFPA 70, National Electrical Code (NEC) 1993 and local electrical codes provisions for wiring.

HEATING AND COOLING SYSTEM REPAIRS AND TUNE-UPS/EFFICIENCY IMPROVEMENTS

(Standards for conformance)

Install duct insulation	FS HH-I–558C, January 7, 1992 (see insulation sections of this appendix).
Reduce input of burner; derate gas-fueled equipment	Local utility company and procedures if applicable for gas fueled furnaces and ANSI Z223.1–1988 (NFPA 54–1988) including Appendix H.
Repair/replace oil-fired equipment	NFPA 31–1987.
Replace combustion chamber in oil-fired furnaces or boilers	NFPA 31–1987.
Clean heat exchanger and adjust burner: adjust air shutter and check CO2 and stack temperature. Clean or replace air filter on forced air furnace	ANSI Z223.1–1988 (NFPA 54–1988) including Appendix H.
Install vent dampers for gas-fueled heating systems	Applicable sections of ANSI Z223.1–1988 (NFPA 54–1988) including Appendices H, I, J, and K. ANSI Z21.66–1988 and Exhibits A & B for electrically operated dampers.
Install vent dampers for oil-fueled heating systems	Applicable sections of NFPA 31–1987 for installation and in conformance with UL 17, November 28, 1988.
Reduce excess combustion air:	
A: Reduce vent connector size of gas-fueled appliances	ANSI Z223.1–1988 (NFPA 54–1988) Part 9 and Appendices G & H.
B: Adjust barometric draft regulator for oil fuels	NFPA 31–1987 and per manufacturers' (furnace or boiler) instructions.
Replace constant burning pilot with electric ignition device on gas-fueled furnaces or boilers	ANSI Z21.71–1981, Z21.71a-1985, and Z21.71b-1989.
Readjust fan switch on forced air gas or oil-fueled furnaces	Applicable sections and Appendix H of ANSI Z223.1–1988 (NFPA 54–1988) for gas furnaces and NFPA 31–1987 for oil furnaces.
Replace burners	See power burners (oil/gas).
Install/replace duct furnaces (gas)	ANSI Z223.1–1988 (NFPA 54–1988).
Install/replace heat pumps	Listed by UL.
Replace air diffusers, intakes, registers, and grilles	Commercially available.
Install/replace warm air heating metal ducts	Commercially available.
Filter alarm units	Commercially available.

REPLACEMENT FURNACES, BURNERS, AND WOOD STOVES

(Standards for conformance)

Chimneys, fireplaces, vents and solid fuel burning Appliances	NFPA 211–1988.
Gas-fired furnaces	ANS1 Z21.47–1987, Z21.47a–1988, and Z21.47b–1989. ANSI Z223.1–1988 (NFPA 54–1988).
Oil-fired furnaces	UL 727, August 27, 1991 Revision and NFPA 31–1987.
Liquified petroleum gas storage	NFPA 58–1989.
Ventilation fans:	
Including electric attic, ceiling, and whole house fans	UL 507, August 23, 1990 Revision.

AIR CONDITIONERS AND COOLING EQUIPMENT

(Standards for conformance)

Air conditioners:	
Central air conditioners	ARI 210/240–1989.
Room size units	ANSI/AHAM RAC–1–1982.
Other cooling equipment:	
Including evaporative coolers, heat pumps and other equipment	UL 1995, November 30, 1990.

SCREENS, WINDOW FILMS, AND REFLECTIVE MATERIALS

(Standards for conformance)

Insect screens	Commercially available.
Window films	Commercially available.
Shade screens:	
Fiberglass shade screens	Commercially available.
Polyester shade screens	Commercially available.
Rigid awnings:	
Wood rigid awnings	Commercially available.
Metal rigid awnings	Commercially available.
Louver systems:	
Wood louver systems	Commercially available.
Metal louver systems	Commercially available.
Industrial-grade white paint used as a heat-reflective measure on awnings, window louvers, doors, and exterior duct work (exposed)	Commercially available.

Weatherization Materials Not Listed in 10 CFR 440, Appendix A

* Current option in AkWarm for state or DOE funds.

** Automatically eligible for state funds. Pending DOE approval for inclusion in AkWarm for calculation for DOE funds. Do not use DOE funds until approval process is complete.

*** Pending DOE approval for inclusion in AkWarm for calculation for DOE funds. Do not use DOE funds until approval process is complete.

*** Wet Spray Applied Cellulose Thermal Insulation** (approved 10/22/1997, WPN 97-6)

Self-Supporting Spray Applied Cellulosic Insulation	ASTM C1149-11

**** Fluorescent Lamps and Fixtures** (approved 7/29/1994, WPN 94-5)

Compact fluorescent lamps	UL 542, Edition 9 (2005); UL 1993, Edition 4 (2012); Energy Star criterial for CFLs – Lifetime Requirement.
Fluorescent lighting fixtures	UL 1598, Edition 3 (2008) (R2012); NFPA 70-2014; Energy Star criterial for Light Fixtures – Lifetime Requirement.

**** LED Lamps and Fixtures** (first approved for OR 5/14/2014)

Portable Electric Luminaires	UL 153, Edition 13 (3/3/2014)
Light Emitting Diode (LED) Equipment for Use in Lighting Products	UL 8750, Edition 1 (R3/3/2014)
Lamp holders	UL 496, Edition 13 (R 11/25/2013)

***** Refrigerators** (approved 10/6/2000, WPN 00-5)

Refrigerator/freezers (does not include freezer-only units)	AHAM HRF-1-2008; UL 250-1993(R2013).
Replaced units must be disposed of properly per	Section 8, Clean Air Act 1990, as amended.

*** Replacement Electric Water Heaters** (approved 10/6/2000, WPN 00-5)

Electric (resistance) storage tank water heaters	10 CFR 430, Appendix E to Subpart B; UL 174, 11th Edition (2004)(R2015).

*** Replacement Water Heaters** (approved 4-11-2001, WPN 01-11)

Heat pump water heaters	10 CFR 430, Appendix E to Subpart B; UL 1995, Edition 4 (2014).
Gas fueled water heaters:	
Rated ≤ 75 kBtu/hr	ANSI Z21.10.1-2014/CSA 4.1-2014; 10 CFR 430, Appendix E to Subpart B.
Rated > 75 kBtu/hr	ANSI Z21.10.1-2014/CSA 4.3-2014; 10 CFR 430, Appendix E to Subpart B.
Oil fueled water heaters	UL 732, Edition 5 (1995) (R2013)

Acronyms:

AHAM – Association of Home Appliance Manufacturers
ANSI – American National Standards Institute
ASTM – ASTM International (formerly American Society for Testing and Materials)
IEEE – Institute of Electrical and Electronics Engineers
NFPA – National Fire Protection Association
SRCC – Solar Rating and Certification Corporation
UL – UL (formerly Underwriters Laboratories)

ALASKA CDC WEATHERIZATION
PROJECT SPECIFICATIONS

1. AIRSEAL, EXTERIOR

Caulk and/or foam potential air passages at the exterior of structure. Caulking material to be paintable and be appropriate for the location and application. Seal around doors and window castings, at corners, still plates, and all cracks capable of letting air infiltrate into house. Caulking that is visible when finished shall be paintable white, clear, or colored to reasonably blend in with color of the area being sealed. All surfaces receiving sealant must be thoroughly cleaned of dust, dirt, grease, lacquer, and anything else that might interfere with the adhesion of the sealant. Should the joints or gaps be deeper than 1/4", they shall be packed to within 1/4" of the face surface with compressible joint fillers; the final 1/4" shall be filled with the sealing compound. Caulking shall fill crevices completely - surface skins are not acceptable. All caulking shall be uniformly smooth, free of wrinkles, flush with adjacent surfaces and absolutely watertight. All adjacent surfaces shall be wiped clean of caulking and left neat. In the event of larger joints or gaps, expandable foam sealant shall be used. The dried finished surface skin of the foam shall not be cut or removed without being sealed. If the foam extends beyond the finished surface, the excess shall be removed or cut to below the finished surface and sealed with exterior caulk or additional foam.

2. AIRSEAL, INTERIOR

Caulk and/or foam potential air passages at the interior of the structure. Caulking material to be paintable and be appropriate for the location and application. Seal around doors and window casings, at corners, sill plates, and all cracks capable of letting air infiltrate into house. Additional attention shall be made to all ceiling penetrations. Light fixtures shall be sealed around the electrical boxes from either the interior or the attic. From the attic, all accessible penetrations shall be sealed, including all wiring and plumbing penetrations. Caulking that is visible from the living area, when finished, shall be paintable white, clear, or colored to reasonably blend in with color of the area being sealed. All surfaces receiving sealant must be thoroughly cleaned of dust, dirt, grease, lacquer, and anything else that might interfere with the adhesion of the sealant. Should the joints or gaps be deeper than 1/4", they shall be packed to within 1/4" of the face surface with compressible joint fillers; the final 1/4" shall be filled with the sealing compound. Caulking shall fill crevices completely - surface skins are not acceptable. All caulking shall be uniformly smooth, free of wrinkles, flush with adjacent surfaces, and absolutely watertight. All adjacent surfaces shall be wiped clean of caulking and left neat. In the event of larger joints or gaps, expandable foam sealant shall be used. The dried finished surface skin of the foam shall not be cut or removed without being sealed. If the foam extends beyond the finished surface, the excess shall be removed or cut to below the finished surface and sealed with exterior caulk or additional foam.
Special Note: AIRSEAL floor penetrations (caulk or foam), from within crawlspace.

3. BLOWER DOOR DIRECTED AIR SEALING

Using a blower door to find and measure air leakage, caulk and or foam air passages at the interior of the structure. Using the computed CFM Target Ventilation Rate as the air sealing target, continue air sealing on an hourly basis until reaching within 50 CFM of the Target Ventilation Rate, or until 100 CFM per hour reduction can no longer be achieved. Additional attention must be given to air sealing the attic and/or ceiling cavity to target differential air pressure of no greater than 5pa at CFM/50 between the attic or ceiling cavity and the conditioned area of the house. Caulking material to be paintable and be appropriate for the location and application. Seal around doors and window casings, at corners, sill plates, and all cracks capable of letting air infiltrate into house. Additional attention shall be made to all ceiling penetrations. Light fixtures shall be sealed around the electrical boxes from either the interior or the attic. From the attic, all accessible penetrations shall be sealed, including all wiring and plumbing penetrations. Caulking that is visible from the living area, when finished, shall be paintable white, clear, or colored to reasonably blend in with color of the area being sealed. All surfaces receiving sealant must be thoroughly cleaned of dust, dirt, grease, lacquer, and anything else that might interfere with the adhesion of the sealant. Should the joints or gaps be deeper than 1/4", they shall be packed to within 1/4" of the face surface with compressible joint fillers; the final 1/4" shall be filled with the sealing compound. Caulking shall fill crevices completely - surface skins are not acceptable. All caulking shall be uniformly smooth, free of wrinkles, flush with adjacent surfaces, and absolutely watertight. All adjacent surfaces shall be wiped clean of caulking and left neat. In the event of larger joints or gaps, expandable foam sealant shall be used. The dried finished surface skin of the foam shall not be cut or removed

without being sealed. If the foam extends beyond the finished surface, the excess shall be removed or cut to below the finished surface and sealed with exterior caulk or additional foam.
Special Note: AIRSEAL floor penetrations (caulk or foam), from within crawlspace.

4 PRESSURE BALANCING
At location(s) noted below, install noted pressure balancing measure(s). Install grills at locations noted as determined by assessor with owner cooperation. Cut down door(s) by amount noted as determined by assessor with owner cooperation. Install “Fresh 100” vents at locations noted as determined by assessor with owner cooperation.
Location(s): Measure(s):

5. APPLIANCE, RANGE, GAS/ELECTRIC 30"
Remove and properly dispose of the existing range. Install a self cleaning, (4) burner with broiler, builders grade range. Installation shall include all electrical/gas hook-ups. Color and style selection by owner shall be within the contractor's allowable budget and approved by Project Manager. Provide manufacturer's warranty and user guide to owner. Cost of range may not exceed $500.

6. APPLIANCE, REFRIGERATOR, 16CF, 18CF, or 21CF
Remove and properly dispose of the existing refrigerator. Install a energy efficient frost-free refrigerator/freezer. Unit shall be (2) door with freezer at top, shall have adjustable wire shelves, and have (2) drawers (crispers). Unit shall be installed level and plumb. Color and style selection by owner shall be within the contractor's allowable budget and approved by Project Manager. Provide manufacturer's warranty and user guide.

7. APPLIANCE, REPAIR
Repair the below noted appliance(s). Ranges shall have all burners, oven, and broiler working. Oven gasket shall be in good condition. Door shall hang properly and seal to oven. All pilot lights shall work properly. Refrigerators shall be working in both refrigerator and freezer space. Gaskets shall be in good condition. Doors shall hang properly and seal to box. Replace parts, as needed, to affect repair. Clean appliance, as needed, to affect repair.
Appliance(s):

11. ATTIC ACCESS, EXTERIOR
Install exterior attic access panel in the gable end of the structure. Location noted below. If not in conformance with the following specifications, demonstrate existing access panel. Access panel shall be 1/2" plywood (minimum), or siding to match existing surrounding surfaces. Access panel shall be installed to open out and close flush with surrounding exterior surface. Panel shall be hung with not less than (2) hasp hinges capable of the load. Panel shall close against a stop installed on the interior of the attic. Panel shall be held shut with a slide bolt latch capable of the application. Any exterior trim needed shall match existing trim on the structure. Joints to be tight. All exterior surfaces shall be painted to match the surrounding surfaces.
Location:

12. ATTIC ACCESS, INTERIOR, EXISTING
At existing attic access, install continuous around the perimeter of the stop, 1/2" x 3/16" (minimum), self adhesive, open cell form gasket material. On the attic side of the panel, install rigid and/or batt insulation to not less than R-38. Insulation shall cover as much of the panel as possible and still allow panel to be opened. In the attic, install a "dam" of plywood or insulation batts around the opening to prevent the attic insulation from falling down. If loose fill insulation is used in the attic, the dam shall be plywood and the insulation on the other side of the panel shall be rigid. If the attic is unused, caulk and seal the hatch shut.

13. ATTIC ACCESS, INTERIOR, NEW
Install interior attic access panel in the location noted below. Access panel shall be 1/2" GWB or plywood set flush with ceiling. Panel shall be supported by 1x dimensional painted pine frame or matching interior base or door trim installed on ceiling surface and shall act as the airseal stop for the panel. Joints to be tight. Install continuous around the perimeter of the stop, 1/2" x 3/16" (minimum), self adhesive, open cell foam gasket material. On the attic side of the panel, install rigid and/or batt insulation to not less than R-38. Insulation shall cover as much of the panel as possible and still allow panel to be opened. In the attic, install a "dam" of plywood or insulation batts around the opening to prevent the attic insulation from falling down. If loose fill insulation is used in the attic, the dam shall be

plywood and the insulation on the other side of the panel shall be rigid. If the attic is unused, caulk and seal the hatch shut.
Location:

14. ATTIC, VENTILATION, EAVES
Install eave ventilation at all eaves. Ventilation holes shall be screened with wire mesh attached to the inside surface of blocking. Baffles shall be installed to allow air to pass between the insulation and the underside of the of the roof sheathing. Blocking shall be square and flush with surrounding surfaces.

15. ATTIC, VENTILATION, GABLE
Install gable ventilation at each gable end. Ventilation holes shall be sized to maximize the vent grill to be installed. Vents shall be as commercially available and installed per manufacturers recommendation. Vents shall be square and plumb. Trim out to match similar trim of structure.

16. ATTIC, VENTILATION, RIDGE
Install ridge ventilation down length of ridge(s). Ridge ventilation shall be as commercially available. Vent shall include membrane to prevent pests from entering attic. Vent shall be installed per manufacturer's recommendation.

17. ATTIC, VENTILATION, SEAL OFF
At location(s) noted below, seal off all ventilation to the attic. Replacement of eave vents with solid blocking and foamed and/or caulked to seal. Replacement of gable end ventilation with materials similar to surrounding surfaces seal and finish. Replacement of ridge ventilation and re-roof the ridge with materials similar to existing roofing.
Location(s):

20. CABINET, OVER RANGE
Install 30" x 18" cabinet over range space. Cabinet shall match as close as possible to existing cabinets or as approved by owner. Space between cabinet and range top shall not be less than 30" or per code.

26. CAULKING, INTERIOR WET AREAS
At location(s) noted below, remove all deteriorated and broken caulking from around kitchen sink, counter/wall connections, bathroom lavatory sink, toilet base, tub/shower surround and connections as walls and floor or locations as noted below. Install new latex waterseal (caulking) for full continuous, finger-smooth coverage of areas removed. Color shall be white or clear, as appropriate to the location. Material shall be high grade caulk designed for the location and application.
Location(s):

27. CEILING, ACOUSTIC TILE R&R
At location(s) noted below, demonstrate and properly dispose all damaged ceiling tiles, furring strips, and any associated trim up to undamaged materials. Install 1x furring strips @ 12" O. C. on ceiling. Install 12" x 12" x 1/2" acoustic ceiling tile to match up with remaining tiles. Staple tile to furring. Trim with cove moulding or other to match existing at tops of walls.
Location(s):

32. CHIMNEY, ABANDONED
At abandoned chimney, remove any excess sealing materials previously applied. Fill the flue and around perimeter of pipe with minimum R-38 batts. Seal around perimeter with foam and/or caulking. Cover the end of the pipe and all exposed sealing materials with a trim cover. At the exterior termination, securely attach a chimney cap made by the flue manufacturer.

33. CHIMNEY, CLEARANCES
At all penetrations of all combustion appliance flues in the structure, inspect and revise, as needed, the clearances to combustible surfaces. Cut combustible materials away from the flue to the required clearance. Secure the flue to prevent movement in penetration toward combustible surfaces. If any penetrations are visible from the living area they are to be trimmed out per flue manufacturers and/or UBC requirements. All flue penetrations between heated and non-heated space shall be sealed with RTV (high temp) caulking. Any penetration through insulation materials

will have the insulation pulled back and an appropriate "dam" built around the flue observing the required clearances. The insulation shall be replaced back against the dam.

34A. CHIMNEY, INSULATED, TYPE B OR S , NEW
At the location noted below, install a "Type B", "Type S" manufactured insulated chimney system as manufactured by Metalbestos or equal. Holes cut through combustible surfaces shall be of appropriate size to allow correct clearance to combustible surfaces. Size the chimney accordingly with the appliance(s) that are to be using it. Install per manufacturers instructions. All penetrations shall be sealed using appropriate sealants. Attic or wall insulation shall not be in direct contact with the exterior surface of the pipe. Installation shall include all related single wall pipe inclusive of elbows, slipjoints, barometric dampers, etc., and installation of the appliances to the chimney system. Single wall pipe shall be minimum 24g snap lock type. Single wall pipe installed in the interior exposed-to-living area of the house shall be black matte. Other pipe shall be galvanized.
Location:

34B. CHIMNEY, INSULATED, TYPE B OR S REPLACE EXISTING
At the location noted below, remove and properly dispose of the complete existing chimney. Install a "Type B", "Type S" manufactured insulated chimney system as manufactured by Metalbestos or equal. Holes cut through combustible surfaces shall be of appropriate size to allow correct clearance to combustible surfaces. Size the chimney accordingly with the appliance(s) that are to be using it. Install per manufacturers instructions. All penetrations shall be sealed using appropriate sealants. Attic or wall insulation shall not be in direct contact with the exterior surface of the pipe. Installation shall include all related single wall pipe inclusive of elbows, slipjoints, barometric dampers, etc., and installation of the appliances to the chimney system. Single wall pipe shall be minimum 24g snap lock type. Single wall pipe installed in the interior exposed-to-living area of the house shall be black matte. Other pipe shall be galvanized.
Location:

35. CHIMNEY, SINGLE WALL
At the location noted below, remove and properly dispose of the interior single wall flue pipe. Install minimum 24g snap lock single wall flue inclusive of all elbow, transitions, slipjoints, barometric dampers, etc., necessary for a complete installation. Reconnect the appliance to the chimney system. Size the flue accordingly with the appliance(s) that are to be using it. Install per manufacturers instructions. Single wall pipe installed in the interior exposed-to-living area of the house shall be black matte. Other pipe shall be galvanized. All interior exposed-to-living area pipe and chimney surfaces shall be touched up after installation using high temperature black matte paint.
Location:

37. CHINKING, EXTERIOR
At location(s) noted below, chink between all logs on the exterior. Use Perma-Chink or equal. If the gap between logs is in excess of 1/2" use backer rod. Do not install if temperature is below manufacturers recommendations. Color selection by owner.
Location(s):

40. CO DETECTOR
At location(s) noted below, install CO Detector(s). Install per manufacturers instructions. Use Nighthawk #T7364 or equal. Unit shall be plug-in type with digital LED readout. Provide owner with all manufacturers paperwork.
Location(s):

41. COMBUSTION AIR
At the location noted below, install a vent and ducting to supply combustion air to the noted appliance. Vent shall be operable at the exterior. Vent shall have a screen at the exterior to prevent pests. Ducting shall be rigid and screwed together at all joints. Ducting shall be properly supported. **Connection to the appliance shall be direct using the manufacturers connection parts. **Termination at the appliance shall be as close as possible to direct the make up air to the appliance. The termination shall have a diffuser grill.
Location/Appliance:

47. CRAWL SPACE, ACCESS DOOR, EXTERIOR

At the location noted below, install a foundation/crawl access door and frame. Frame shall be 2x4 AWW solidly attached to foundation/skirt walls. The door shall be constructed of 2 x 2 AWW and sheathed with 1/2" AWW plywood. Door shall be installed outswing. Door shall have a handle. Door shall be latchable with slide bolt or other as appropriate. Hinges shall be sturdy enough to handle the weight. Door shall be insulated with 2" extruded polystyrene (Blue Board) solidly attached to the sheathing on the interior between framing members using appropriate fasteners and/or poly adhesive. Install 1/2" x 3/16" self adhesive weatherstripping door to seat against the 2 x 4 frame.
Location:

48. CRAWL SPACE, ACCESS DOOR, INTERIOR
At the location noted below, install a foundation access door and frame. Frame shall be framed into the existing floor joist system. Install cripples as necessary to satisfy size requirements. The door shall be plywood not less than 3/4". Door shall swing into interior of structure. Door shall be trimmed out to match surrounding area and have a handle. Hinges shall be sturdy enough to handle the weight. Door shall be insulated to R-19 using rigid insulation solidly attached. Install 1/2" x 3/16" self adhesive weatherstripping on door to seat against a 2 x frame..
Location:

49A MOISTURE BARRIER, CRAWL SPACE, CONCRETE FOUNDATION
In the crawl space, remove excessive rocks and/or debris and install 6 mil poly sheeting moisture barrier on the ground. Moisture barrier shall be installed from the mudsill down the foundation wall and across the ground to the opposite wall and mudsill. All seams shall be overlapped not less than 12" and be sealed with acoustical caulking and/or poly tape. At the top of the foundation wall at the mud sill, the poly shall be sealed with acoustical caulking. All penetration shall be sealed similarly. There shall be no excessive wrinkles in the poly.

49B MOISTURE BARRIER, CRAWL SPACE, AWW FOUNDATION
In the crawl space, remove excessive rocks and/or debris and install 6 mil poly sheeting moisture barrier on the ground. Moisture barrier shall be installed from the bottom plate of the AWW foundation framing wall across the ground to the opposite wall. All seams shall be overlapped not less than 12" and be sealed with acoustical caulking and/or poly tape. At the top of the foundation wall at the mud sill, the poly shall be sealed with acoustical caulking. All penetration shall be sealed similarly. There shall be no excessive wrinkles in the poly.
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50. DECK AND STAIR
Demo and properly dispose the existing deck(s) and stair(s) at the below noted location(s). Construct exterior wood deck per applicable codes. The landing shall not exceed 42" x 42". All beam(s), joists and support system to be pressure treated lumber (AWW). Support posts shall be set on concrete piers attached with proper brackets. Piers shall be set on undisturbed or compacted soils. Landing to be finished grade pressure treated dimensional fir or pine similar to "outdoor wood" or equal, or cedar. Floorboards shall be spaced 1/4" apart and secured with non-corrosive deck screws. Ledger(s) shall be lagged to structural framing and joists shall be supported with hangers at each end. The landing shall not be more than 1/2" below the leading edge of the threshold and shall slope away from the structure at 1/4" per 1 foot. A guardrail shall be required if the floor of the deck is more than 30" above finished grade. Finish grade below deck shall be graded and raked to drain properly. Stairs shall be required if the landing is more than 9" above grade at the step. Stairs shall be not less than 36" net width. Rise and run shall meet UBC. Materials used on the stair shall be the same as used on the deck. Use 2x12 stringers and two 2x6 for each tread. If stringers are cut, ends of treads to extend 1/2" beyond stringers. Simpson Tread Angles are acceptable. A single handrail shall be required if there are more than 4 risers. All railings shall be as follows; Posts to extend through deck floor and solidly secured to joists. Top rail to be 2x4 on edge and shall be continuous with full length lumber (up to 16'). Any joint beyond 16' to be at post. Top of rail to be 3'-6" above floor of deck. Balusters to be vertical, 2x2 @ not more than 4" clear between each baluster secured to rail and joist with minimum (2) each 2-1/2" galvanized or treated screws at both rail and joist. Edges to be slightly rounded and sanded smooth with no splinters.
Location(s):

51. DECK AND STAIR, RAILING
At the below noted location(s), demo and properly dispose the existing railing(s). Construct exterior wood railing per applicable codes. Posts to extend through deck floor and solidly secured to joists. Top rail to be flat 2x4 over

2x4 on edge and shall be continuous with full length lumber (up to 16'). Any joint beyond 16' to be at post. Top of rail to be 3'-6" above floor of deck. Balusters to be vertical, 2x2 @ not more than 4" clear between each baluster secured to rail and joist with minimum (2) each 2-1/2" galvanized or treated screws at both rail and joist. All lumber to be cedar or pressure treated fir or pine similar to "outdoor wood" or equal. Edges to be slightly rounded and sanded smooth with no splinters.
Location(s):

Install wood railings on exterior wood deck per code. Posts to extend through deck floor and solidly secured to joists. Top rail to be flat 2x4 over 2x4 on edge and shall be continuous with full length lumber (up to 16'). Any joint beyond 16' to be at post. Top of rail to be 3'-6" above floor of deck. Bottom rail to be 4" from top of floor. Balusters to be 2x2 @ 6" O./C., secured to top and bottom rails with minimum 3" galvanized lag bolts. All lumber to be pressure treated fir or pine. Edges to be slightly rounded and sanded smooth with no splinters. Lineal feet of railing, including at steps.

52. DECK STAIR
Demo and properly dispose of the existing stair at the below noted location(s). Install stair at exterior deck per code. Stairs shall be required if the landing is more than 9" above grade at the step. Stairs shall be not less than 36" net width. Rise and run shall meet UBC. Materials used on the stair shall be the same as used on the deck. Use 2x12 stringers and two 2x6 for each tread. If stringers are cut, ends of treads to extend f1/2" beyond stringers. Simpson Tread Angles are acceptable. All lumber to be pressure treated fir or pine similar to "outdoor wood" or equal. All fasteners to be galvanized. Top of stringers to be hung to structural framing of deck with 1/8" x 1-1/2" galvanized FHA strap. A single handrail shall be required if there are more than (4) risers. All railings shall be as follows; Posts to extend through deck floor and solidly secured to joists. Top rail to be 2x4 on edge and shall be continuous with full length lumber (up to 16'). Any joint beyond 16' to be at post. Top of rail to be 3'-6" above floor of deck. Balusters to be vertical, 2x2 @ not more than 4" clear between each baluster secured to rail and joist with minimum (2) each 2-1/2" galvanized or treated screws at both rail and joist. Edges to be slightly rounded and sanded smooth with no splinters.
Location(s):

53. DECK, FLOOR, REPLACE
At location(s) noted below, replace deck/porch floor. Remove all deck flooring wood/plywood down to joists. Inspect joist and notify Project Manager of any structural problems. Install new 2x pressure treated decking material similar to "outdoor wood" or equal. Use all galvanized or ceramic coated nails for installation.

54. DECK, PIER(S), REPLACE
At location(s) noted below, shore up deck/porch sub-structure and remove deteriorated pier(s). Install new footing and 12"x12" or 12"x16" cement corner block pier(s) with properly sized post brackets. Set porch deck on new piers. Secure deck to piers per code. Touchup all areas affected by work and restore grade to match existing.
Location(s):

55. DEMO STRUCTURE
At location(s) noted below, demolish and properly dispose of all elements of the structure (from roof to foundation), to a level 4" below finished grade. The contractor shall protect and secure from damage all other structures, sidewalks, paved areas, shrubbery, lawn areas and other property of the homeowner. Damage to such property of the homeowner and neighboring properties shall be repaired or replaced to the satisfaction of the owner without additional expense. Install 4" of topsoil, grade and seed to eliminate all evidence of the demolition work. Patch the trim and siding to a reasonable match, in like and kind, to the existing structure.
Location(s):

56. DEMO STRUCTURE, REBUILD
At location(s) noted below, demolish and properly dispose of all elements of the structure (from roof to foundation), to a level 4" below finished grade.

Frame as necessary to reconstruct the demonstrated structure as noted on the drawing. The drawing is intended for reference only. All framing shall be in compliance with the UBC. Spans, beam sizes, materials used, etc., shall be

per the UBC. Exterior walls shall be finished to match surrounding surfaces. All surfaces exposed to the exterior shall be finished as to prevent weather penetration. Any framing that occurs on a slab or below grade shall be AWW. All exterior walls shall be 2x6 minimum, insulated to R-19 and have a moisture barrier installed on the interior side. All electrical, plumbing, etc., shall be complete per the respective codes.

The contractor shall protest and secure from damage all other structures, sidewalks, paved areas, shrubbery, lawn areas and other property of the homeowner. Damage to such property of the homeowner and neighboring properties shall be repaired or replaced to the satisfaction of the owner without additional expense.
See other related specifications.
Location(s):

57. DOOR, 20 MIN. PREHUNG
Remove and properly dispose existing door(s) at the below noted location(s). Install prefinished 20 min. rated, solid core prehung door sized to best fit the existing rough opening. If the RO height or width is inadequate to accommodate a standard door, the door shall be properly cut and blocked and the jamb rebuilt to fit. Package shall include pressure type weatherstrip, adjustable threshold and/or sweep and keylock. Replace trim inside and out using matching trim. Jamb top and sides to be solid pine. If necessary, paint jamb only inside and out including all edges. Remove weatherstrip prior to painting.
Location(s):

58. DOOR, CASING
At location(s) noted below, dispose of all cracked, split or damaged door casing. Install new casing. Casing to match existing as closely as possible. Paint as necessary to match surrounding areas. Miter joints to be tight and glue/nailed. Nailing to be 16" O. C.
Location(s):

59. DOOR, DEADBOLT OR LOCKSET
At location(s) noted below, replace exterior door locks with keylock or deadbolt. Deadbolt to extend 1" into strike and screws securing strike must extend a minimum of 1" into 2x framing of door (trimmer). Repair unused holes and damages in door and jamb. Holes larger than 1" wide or long to be repaired using wood plugs. Properly adjust door to open, close and lock properly. Both locks to be keyed alike.
Location(s):

60. DOOR, EXTERIOR PREHUNG
Remove and properly dispose existing door(s) at the below noted location(s). Install metal insulated, prehung exterior door(s) sized to best fit the appropriate rough openings. If there is adequate room to revise the opening to accept a standard door, the RO width/height shall be revised to optimize the door size (see other specification). Jamb shall include pressure type weatherstrip, adjustable sweep and/or adjustable threshold, keylock and a single cylinder deadbolt both keyed alike (with owner approval). Replace trim inside and out using matching trim. Jamb top and sides to be solid pine.
Location(s):

61. DOOR, EXTERIOR PREHUNG, NEW ENTRY
At the location(s) noted below and in the drawings, cut opening and install header and all necessary framing to install a 3'-0" exterior door. Install 1-3/4", prehung metal insulated door similar to Benchmark, Peachtree or equal. Jamb shall include pressure type weatherstrip, adjustable sweep and/or aluminum threshold, keylock and single cylinder deadbolt both keyed alike. Install trim inside and out using matching trim to existing in structure. Jamb top and sides to be solid pine. Repair all surfaces inside and out to match existing.
Location(s):

62. DOOR, EXTERIOR, REMOVE AND FRAME IN
At below noted location(s), demo and properly dispose of the existing exterior door, frame and trim. Frame in the opening with vertical studs of same depth as existing at 16" on center. Install insulation and vapor barrier. Side exterior to match surrounding area. Install GWB and tapefinish as necessary to match interior surrounding area.
Location(s):

63. DOOR, GARAGE, ADJUST & WX
At location(s) noted below, adjust overhead garage door to fit and operate properly. Adjust door in opening so side reveal is equal and top reveal is no more than 1/2". Adjust tension mechanism to equalize weight of door and relocate mechanism to equalize weight of door and relocate mechanism if necessary. Secure all hinges and hardware with lag screws where backing is solid or through bolts as required locking devise to operate easily. Scribe bottom to concrete and install new gasket. Patch all surfaces affected by adjustment. Install thermal brush type weather stripping around sides and top of opening and foam boot at floor.
Location(s):

64. DOOR, GARAGE, REPLACE
At below noted location(s), remove deteriorated garage doors and properly dispose. Reframe as needed to accommodate new overhead garage door. Install as needed 2x6 jambs of select dimensional material ripped to match wall thickness and 1-1/8 x 3" exterior casing, number 1 common pine with dripcap overhead. Install new metal insulated, sectional overhead garage door(s) complete with stops and all bracing required for installation. use builder's grade, insulated door as manufactured by Overhead Doors or approved equal. Install thermal brush type weather stripping around sides and top of opening and foam boot at floor.
Location(s):

67. DOOR, LEVEL AND ADJUST
At location(s) noted below, properly adjust door to open, close and lock properly. Trim any edges necessary for even reveal and fit. Adjust latch strike position if needed and tighten all screws in lock and hinges (plug & redrill old holes if needed).
Location(s):

68. DOOR, PATIO, REPLACE
At location(s) noted below, remove and properly dispose of the existing patio door(s). Install swinging patio door sized to optimize the existing rough opening. Use "Atrium Door" or equal. Swing door per plans or as noted below. "French" style doors (latch at the astrigal) will not be acceptable Jamb shall include pressure type weatherstrip, adjustable sweep and/or adjustable threshold, keylock and a single cylinder deadbolt both keyed alike (with owner approval). Replace trim inside and out using matching trim. Jamb top and sides to be solid pine. Location(s):

69. DOOR, PEEPSIGHT
At location(s) noted below, install a wide angle peepsight in unit entrance door. Drill proper size hole without splintering edges. Height shall be agreed with owner.
Location(s):

70. DOOR, REPAIR
At location(s) noted below, remove door and hinges. Fill & repair damage in door and frame with epoxy based wood filler or wood if hole or damage exceeds 1/2". Fit wood in old damaged mortise holes and re-mortise door and frame to depth of hinges. Rehang door plumb so it does not move while open. All affected areas to match surrounding surfaces.
Location(s):

71. DOOR, SILL, REPLACE
At location(s) noted below, remove the door sill and install a new oak sill properly anchored to the door frame. Subfloor area must be cut to allow inside edge of sill to remain flush with finished floor. Refit the bottom of the door to the new door sill. Install adjustable weatherstrip (shoe) to bottom of door. Adjust door to fit properly. All affected surfaces to match surrounding areas.
Location(s):

72. DOOR, STORM
At location noted below, install insulated storm door with thermal-pane glass unit, e.g. "Forever Door" or equal.
Location(s):

73. DOOR, TRIM

At the location(s) noted below, install new wood door trim to match existing. Install to existing door frame. Provide additional jamb extension as needed. Nails to be countersunk and filled.
Location(s):

74. DOOR, WEATHERSTRIP AND SWEEP

At location(s) noted below, install pressure type weatherstrip and adjustable sweep on noted exterior doors. After installation, adjust doors to open, close and lock properly. Threshold height must allow door to clear floor covering. Patch to match surrounding areas any affected surfaces. Use Q-Lon weatherstrip and Thermo-Tru or Thermal Brush Sweep or equal.
Location(s):

75. DRYER VENT

Install dryer exhaust duct to exterior. Vent ducting shall be rigid steel or aluminum snap lock pipe. PVC pipe will be acceptable only if dryer is electric. Ducting shall be fastened at each joint with minimum of (3) screws for metal pipe and plastic weld for PVC pipe. Ducting shall be well supported to prevent drooping. Install exterior approved vent cap. Use Heartland vent cap or equal. Repair all affected surfaces. Connect to existing dryer with minimum length of plastic flex ducting. Secure both ends of flex with pipe clamp. Duct penetration through wall of dryer room shall be secured and sealed.

76. DRYWALL, FIRETAPE EXISTING GWB

At location(s) noted below, apply firetape coat to the walls and ceiling. Apply tape and adequate mud to seal seams. Apply one coat of mud to nail/screw heads. Area to be left clean and dust free.
Location(s):

77. DRYWALL, GWB OVERLAY WALLS/CEILING

At location(s) noted below, remove all loose and sagging plaster from walls and ceiling. Remove any fixtures, plate covers, etc. that are on the surface of affected area. Overlay walls and ceiling with 1/2" drywall using greenboard at any wet areas. Fasteners shall extend into the framing member not less than 1". All outside corners shall receive metal corner beads, joints to occur at supports, tape and finish joints and fastening heads. Apply tape and mud to blend in with other adjacent surfaces. Reinstall all fixtures, electrical plate covers, etc.
Location(s):

78. DRYWALL, PATCH/REPAIR

At location(s) noted below, cutout damaged areas, repair damaged areas, patch with new GWB as needed, all affected outside corners shall receive metal corner bead. Prepare surfaces to an acceptable finish. Apply tape and mud to seal all joints and nails. Outside corners to have nailed metal corner bead.
Location(s):

80. DRYWALL, CEILING, TYPE X GWB

At location(s) noted below, install new 5/8" type "X" drywall. . Remove any fixtures, plate covers, etc. that are on the surface of affected area. Attach to the framing with approved fasteners. Fasteners shall extend into the framing member not less than 1". All outside corners shall receive metal corner beads, joints to occur at supports, tape and finish joints and fastening heads. Apply tape and mud to seal all joints and nails to a fire tape status. Reinstall all fixtures, electrical plate covers, etc.
Location(s):

81. DRYWALL, WALLS GWB

At location(s) noted below, install 1/2" drywall on all walls using greenboard at required wet areas. Remove any fixtures, plate covers, etc. that are on the surface of affected area. Attach to the framing with approved fasteners. Fasteners shall extend into the framing member not less than 1". All outside corners shall receive metal corner beads, joints to occur at supports, tape and finish joints and fastening heads. Apply tape and mud to seal all joints and nails to a fire tape status. Reinstall all fixtures, electrical plate covers, etc.
Location(s):

82. DRYWALL, WALLS & CEILINGS, MOISTURE GUARD GWB/TT&P
At location(s) noted below, install 1/2" Moisture Guard drywall on all walls and ceilings at required wet areas. . Remove any fixtures, plate covers, etc. that are on the surface of affected area. Attach to the framing with approved fasteners. Fasteners shall extend into the framing member not less than 1". All outside corners shall receive metal corner beads, joints to occur at supports, tape and finish joints and fastening heads. Apply tape and mud to seal all joints and nails to a fire tape status. Reinstall all fixtures, electrical plate covers, etc.
Location(s):

83. 3/8" AC ON CEILINGS AND/OR WALLS
At location(s) noted below, install 3/8" AC plywood on ceiling and/or walls. Remove any fixtures, plate covers, etc. that are on the surface of affected area. Attach plywood to the framing with finish nails or screws. Nails shall extend into the framing member not less than 1-1/2". Screws shall extend into the framing member not less than 1". All inside and outside corners and butt joints shall be neatly cut and butt cleanly to adjoining piece. Joints to occur at framing members. Reinstall all fixtures, electrical plate covers, etc.
Location(s):

84. ELECTRICAL, CLEAN-UP EXISTING
Minimal repairs as needed to provide safety including but not limited to; installing wire nuts on taped connections, installing covers on junction boxes, properly attaching wiring that is hanging or loose from the structure, reattaching light fixtures, installing cover plates, installing GFI receptacles, reinstalling switches or receptacles, etc. Most work will be minimal to only eliminate the immediate hazards.
NOTE: If the extent of work exceeds the Scope of Work, the contractor shall contact Ak CDC as soon as the condition is realized and a determination will be made.

85A. ELECTRIC, FAN, BATH, REPLACE
At the location(s) noted below, remove and properly dispose of the bath fan. Install a Panasonic #70 or equal fan in the center area of the ceiling. Fan shall be vented to the exterior via rigid ducting of 28g aluminum or PVC pipe. Ducting shall be secured at all joints with screws or weld. Ducting shall be properly supported and/ or buried within the attic insulation if possible. Exterior vent shall be dampered and weather tight. Preferred location (noted) of exterior vent shall be at the gable end wall nearest the fan location. Roof termination will be acceptable. Any insulation affected by the installation shall be replaced. Ceiling penetration shall be sealed tight. Install separate switch in wall next to opening side of door. Fan operation by the light switch is not desirable. All wiring shall be concealed in wall, floor and/or ceiling. Install as per manufacturers recommendations. Patch and seal all affected areas to match surrounding area.
Location(s):

85B. ELECTRIC, FAN, BATH, NEW
At the location(s) noted below, install a Panasonic #70 or equal fan in the center area of the ceiling. Fan shall be vented to the exterior via rigid ducting of 28g aluminum or PVC pipe. Ducting shall be secured at all joints with screws or weld. Ducting shall be properly supported and/ or buried within the attic insulation if possible. Exterior vent shall be dampered and weather tight. Preferred location (noted) of exterior vent shall be at the gable end wall nearest the fan location. Roof termination will be acceptable. Any insulation affected by the installation shall be replaced. Ceiling penetration shall be sealed tight. Install separate switch in wall next to opening side of door. Fan operation by the light switch is not desirable. All wiring shall be concealed in wall, floor and/or ceiling. Install as per manufacturers recommendations. Patch and seal all affected areas to match surrounding area.
Location(s):

86. ELECTRIC, FAN, RANGE HOOD, NEW
Install ducted, 120v., 160 CFM minimum range hood with light and variable speed fan. Hood shall be connected to circuit capable of 15 AMP. Hood shall vent to exterior via rigid metal ducting. All joints shall be screwed with not less than (2) stainless steel self tapping screws per joint and all ducting shall be properly supported. Termination of vent shall be at gable end wall if possible. Roof termination is acceptable. Termination cap shall be positively dampered and weather sealed. All penetration shall be sealed. All wiring shall be concealed. All affected surfaces shall be repaired. All work to be in full compliance with applicable electrical and mechanical codes. Standard is

Nutone Model #RL6100 "Value Test" or approved equal. Provide manufacturer's warranty and user guide. Color selection by owner.

87. ELECTRIC, FAN, RANGE HOOD, REPLACE
Remove and properly dispose of the existing range hood. Install ducted, 120v., 160CFM minimum range hood with light and variable speed fan. . Hood shall be connected to circuit capable of 15 AMP. Hood shall vent to exterior via rigid metal ducting. All joints shall be screwed with not less than (2) stainless steel self tapping screws per joint and all ducting shall be properly supported. Termination of vent shall be at gable end wall if possible. Roof termination is acceptable. Termination cap shall be positively dampered and weather sealed. All penetration shall be sealed. All wiring shall be concealed. All affected surfaces shall be repaired and sealed. All work to be in full compliance with applicable electrical and mechanical codes. Standard is Nutone Model #RL6100 "Value Test" or approved equal. Provide manufacturer's warranty and user guide. Color selection by owner.

88. ELECTRIC, FAN, WALL
At location(s) noted below, remove and properly dispose of the wall fan. Install 8" through the wall exhaust fan. Use Nutone #8070 or equal. New fan shall be single speed, 120V. with an exhaust rate of minimum 160CFM and sound level not to exceed 4.5 sones. Install separate switch in convenient location. All wiring shall be concealed in wall, floor and /or ceiling. Cut opening through existing wall and secure unit. Install as per manufacturers recommendation. Patch and seal all affected areas.
Location(s):

89. ELECTRIC, GFI, EXTERIOR
At exterior location(s) noted below, replace existing outlet with GFI duplex receptacle. Non-GFI outlets will not be permitted on the exterior of the structure. Old outlet boxes, if not used for GFI, shall be covered with blank, water tight plate to prevent use. The individual receptacles do not have to be replaced if the circuit(s) is protected via a GFI breaker. There cannot be a freezer or refrigerator using a GFI protected circuit.
Location(s):

90. ELECTRIC, GFI, INTERIOR
At all location(s) within 6' of kitchen sink, bath sink, bath tub, shower, utility sink or as noted below, replace existing outlet with GFI duplex receptacle. Non-GFI outlets within 6' of water supply will not be permitted. Old outlet box within 6' of water supply, if not used for GFI, shall be covered with blank wall plate to prevent use. The individual receptacles do not have to be replaced if the circuit(s) is protected via a GFI breaker. There cannot be a freezer or refrigerator using a GFI protected circuit.
Location(s):

91. ELECTRIC, GFI, NEW
At location(s) noted below, install a new GFI duplex outlet per code. Install a new circuit as needed. All wiring to be concealed within walls/ceiling/floor. Old outlets within 6' of water supply, if not used, shall be covered with solid matching plate cover to prevent use. The individual receptacles do not have to be replaced if the circuit(s) is protected via a GFI breaker. There cannot be a freezer or refrigerator using a GFI protected circuit.
Location(s):

94. ELECTRIC, LIGHT FIXTURE, CEILING
At location(s) noted below, remove existing ceiling fixture(s). Install new fluorescent ceiling light fixture(s) size(s) indicated below. Fixture to be installed per manufacturers recommendations and local electrical codes. Installation shall include connection to existing wiring.

Large size: Shall be "American Fluorescent Floating Cloud" or equal but in all cases shall have electronic ballast and T-8 Bulbs.
Small size: Shall be "American Fluorescent fixture #C2026" or equal but in all cases shall have compact fluorescent lamps included with incandescent light output equal to 100 watt +/-.
Location(s) and size:

98. ELECTRIC, LIGHT FIXTURE, INSTALL EXISTING

At location(s) noted below, install the existing light fixture. Ensure proper function.
Location(s):

99. ELECTRIC, LIGHT FIXTURE, PORCELAIN
At the location(s) noted below, install a porcelain light fixture with pull string on/off switch. Provide adequate circuit to serve the fixture from existing local circuit. All wiring shall be concealed within the wall/floor/ceiling. Install a compact fluorescent lamp in the fixture.
Location(s):

100. ELECTRIC, LIGHT FIXTURE, PORCELAIN
At the location(s) noted below, remove existing ceiling fixture(s). Install a porcelain ceiling light fixture(s) with pull string on/off control. Fixture to be installed per manufacturers recommendations and local electrical codes. Installation shall include connection to existing wiring.
Location(s):

102. ELECTRIC, NEW SERVICE PANEL
Install new electrical service at location as required by Code. To include new surface mount panel and wiring (unless otherwise specified), new service wire, head, straps, disconnect circuit panel and circuit breakers, connection of existing wiring into new panel, fittings, labels and trim. New min. 100 amp. panel to be in full compliance with all applicable building codes and Housing Department requirements.

103. ELECTRIC, OUTLET, 100V NEW
At location(s) noted below, install new 20 Amp., 120V electrical outlet on a new circuit. Installation to include flush mounted outlet box, appropriate sized branch wiring, circuit breaker, all fasteners, grounding and coverplate. All work to be in full compliance with applicable building codes. All wiring shall be concealed within wall/ceiling/floor. All areas affected by this work shall be finished to match surrounding surfaces.
Location(s):

104. ELECTRIC, OUTLET, 110V, REPLACE
Throughout structure, remove and properly dispose all electrical receptacle(s). Install grounded 120V receptacles. Installation to include all fasteners and new covers. Receptacle to be secure and cover to be even with adjacent surfaces and straight. All work to be done according to local electrical codes. Color of receptacles and cover to compliment adjoining surfaces.

105. ELECTRIC, OUTLET, 220V NEW
At location(s) noted below, install 220V appliance circuit with outlet bearing UL label. Type of outlet to be appropriate for the appliance. Installation to be per code. All wiring shall be concealed within walls/ceiling/floor. All areas affected by this work shall be finished to match surrounding surfaces.
Location(s):

106. ELECTRIC, PANEL, R&R
Remove and properly dispose of the electrical panel. Install an electrical panel that is capable of serving the connected load plus having enough room for additional circuits when needed. The panel is to Square D, General Electric, or equal. All work to meet NEC.

107. ELECTRIC, RELAMP
At the below noted location(s), install the below noted high efficiency/compact fluorescent lamp(s).
Location: Lamp:

Earthlight
15W Capsule
15W Globe
Fluorever 40W
SLS-15
SLS-20

Circline-9"
Circline-22W
Exterior 13W Flood

109. ELECTRIC, SELF LIMITING HEAT TAPE
At location(s) noted below, remove and properly dispose of the existing heat tape. Install self limiting heat tape to the areas indicated. Install per manufacturers recommendations. Use Arctic Trace or equal. Installation shall include waterproof caps as needed. Either hard wire or plug the tape into a GFI protected circuit. Connection shall be within 2" of the heat tape.
Location(s):

110. ELECTRIC, SUB PANEL
At location noted below, remove sub panel. Install new grounded single phase, 100 Amp., 3 wire, flush mounted breaker sub panel. Connect existing circuits to new circuit breakers and distribute load according to building code requirements. Installation to include all fittings, labels, trim and return of affected area to a smooth paint ready condition.
Location:

111. ELECTRIC, SWITCH, REPLACE
At location(s) noted below, replace switch with new switch. Color and cover to match existing as close as possible.
Location(s):

113. ESCAPE LADDER
Provide XX escape ladder(s) to owner. Use model #2 for 2 story and #3 for 3 story applications as manufactured by DIAL Industries or equal. Provide owner with all manufactures paper work.
Location(s):

114. EXTERIOR, BATTENS/TRIM REPAIR/REPLACE
At location(s) noted below, replace all missing/damaged battens (siding corners) to match existing as close as possible. Secure all loose siding and corner members prior to installing new corners.
Location(s):

115. EXTERIOR, FASCIA REPAIR/REPLACE
At location(s) noted below, replace all broken, deteriorated fascia with S4S cedar to match size of existing. Bottom edge to be straight line as reasonably possible. All nails to be galvanized.
Location(s):

116. EXTERIOR, GUTTERS
At location(s) noted below, remove and properly dispose of all existing gutters, downspouts, brackets, etc. Install a vinyl gutter system on all eaves. Support brackets shall be installed to support the gutters with snow load. Brackets shall be not more than 48" apart. Grade for all gutters shall be 1/8" per 1' toward nearest downspout. Downspouts shall be directed away from structure. Install fiberglass or concrete splash blocks at each downspout.
Location(s):

117. EXTERIOR, SIDING/TRIM REPAIR/REPLACE
At location(s) noted below, replace broken, missing and deteriorated siding with new matching siding. Secure all loose siding and trim. Trim out all windows, doors and corners with 1X cedar trip or as needed to match existing. If lap siding or other strip type siding is used, multiple short pieces will not be acceptable. Butt seams shall be offset by not less than 16". All joints to be fit accurately and tight. Use galvanized nails. Transitions shall be smooth and finished ready for coating.
Location(s):

118A EXTERIOR SKIRTING, INSULATED
At perimeter of structure, install a wood frame and panel skirt with rigid insulation. Frame shall be AWW 2 x 4 construction consisting of a top plate attached to structure and a bottom plate following grade. The vertical members

shall be not less than 24" on center. Skirt sheathing shall be 1/2" AWW plywood. Skirt sheathing shall extend from bottom edge of the structure exterior siding to grade. Top edge of sheathing shall be placed either behind the structure siding allowing the siding to provide a drip edge or the skirt sheathing shall but to the siding using "Z" metal for water prevention. All butt edges shall be over skirt framing members. Insulate skirting with 2" extruded polystyrene (Blue Board). "Bead Board" will not be acceptable. Insulation shall be applied to interior side of skirting directly against the sheathing and between framing members. Attach insulation using appropriate fasteners and/or adhesive. All fasteners shall be compatible with AWW materials. Nailing schedule shall be consistent with the UBC. All joints shall be sealed using exterior caulk. Corners shall be finished with 1 x cedar.

118B EXTERIOR SKIRTING, UNINSULATED

At perimeter of structure, install a wood frame and panel skirt. Frame shall be AWW 2 x 4 construction consisting of a top plate attached to structure and a bottom plate following grade. The vertical members shall be not less than 24" on center. Skirt sheathing shall be 1/2" AWW plywood. Skirt sheathing shall extend from bottom edge of the structure exterior siding to grade. Top edge of sheathing shall be placed either behind the structure siding allowing the siding to provide a drip edge or the skirt sheathing shall but to the siding using "Z" metal for water prevention. All butt edges shall be over skirt framing members. All fasteners shall be compatible with AWW materials. Nailing schedule shall be consistent with the UBC. All joints shall be sealed using exterior caulk. Corners shall be finished with 1 x cedar.

119. EXTERIOR, SKIRTING REPAIR

At location(s) noted below, remove, repair and reinstall existing skirting so that all joints are as tight as possible. Air seal with caulking and/or expanding foam to seal. Skirt shall be as tight to the soil as possible. Replace any damaged or missing portions of the skirting including framing, sheathing, insulation, etc.. Repair the access door as needed for proper function.
Location(s):

120. FAN, VENT EXISTING

At the location(s) noted below, vent the existing fan(s) to exterior via rigid metal ducting (PVC is acceptable for bath fans only). All joints shall be screwed with not less than (2) stainless steel self tapping screws per joint and all ducting shall be properly supported. Termination of vent shall be gable end wall if possible. Roof termination is acceptable. Termination cap shall be positively dampered and weather sealed. Ceiling penetration shall be sealed.
Location(s):

126. FIRE EXTINGUISHER

Install a 10# ABC fire extinguisher on wall mounted bracket. Extinguisher shall be refillable. Mount bracket at location as agreed by with owner. Location shall be low to floor and near exit. Provide owner with all manufacturers paper work.

134. FLOORING, UNDERLAYMENT

At location(s) noted below, install underlayment grade AC plywood (3/4" or as needed to match surrounding surfaces) secured with screws and construction adhesive. Screw @ 3" O. C. at edges and 6" in field over joists. Apply Fixall or other filler to all joints and nail dents and sand smooth.
Location(s):

139. FOUNDATION, BEAMS, POSTS AND PADS, AWW

At location(s) noted below, demo and properly dispose existing beams and/or pads and posts in location(s) noted below. Install load-bearing wood beams under existing floor joists as noted. Beams will be sized and spaced according to load and code requirements. Install posts as noted to meet span requirements. Install AWW pads of appropriate size (see drawing) on solid compacted and/or undisturbed soil. Anchor beams to post members and post members to pads per code (as drawn). Install cross members from the base of one post to the top of the next post around perimeter and down length of each beam using appropriate fasteners or as noted. All joints in girders must fall on column supports.
Location(s):

140 FOUNDATION, PAD AND POST, AWW

At location(s) noted below, demo and properly dispose existing posts and pads in location(s) noted below. Install pads and posts as noted to meet span requirements. Install AWW pads of appropriate size (see drawing) on solid compacted and/or undisturbed soil. Anchor beams to post members and post members to pads per code (as drawn). Install cross members from the base of one post to the top of the next post around perimeter and down length of each beam using appropriate fasteners or as noted. All joints in girders must fall on column supports.
Location(s):

143. FOUNDATION, REPAIR AND LEVEL
Jack and brace sills, joists, and beams as needed to remove weight from foundation wall. Reset or replace where necessary, all broken or loose foundation wall elements, pads and posts and support members per local requirements (see other spec if applicable). Shim as necessary to make structure level. Shims shall be of a material so as to not smash or lose height. Any and all voids or air passages created between the crawl space and the exterior shall be sealed with appropriate materials.
Location(s):

146A ARCTIC ENTRY, DEMO EXISTING
At location noted below, demo all exiting arctic entry, landing and/or stair and properly dispose of materials.
Location:

146B ARCTIC ENTRY, NEW
At location noted below, prepare site for new arctic entry. Excavate 2 points at 8 ft. By 8 ft. from structure at new entry location. Excavation shall be to solid compacted and/or undisturbed soil. Construct an 8 ft. By 8 ft. Arctic entry at location as noted. Entry shall be attached to structure via a rim ledger and joist hangers. The outside corners will be placed on AWW pads. (See drawing). All connections to foundation/structure shall be by appropriate connectors/brackets. All materials within 6" of soils shall be AWW. Entry structure shall include one door and one window (drawing). Floor surface shall be constructed with 3/4" CDX and shall be not less than 1/2" below the edge of the structure door sill/threshold. Roof shall be pitched as indicated on drawing and completely finished with metal roofing. The siding shall be T-1-11 with 1 x 4 cedar battens and trim. Construct a landing and stair with railing as necessary (see below). Location of entry door and window to be determined by assessor with cooperation of owner. A ceramic ceiling light fixture will be installed at the interior and an exterior grade porch light shall be installed at the new exterior door location. Switching shall be 3 way with a switch at interior of exterior door and interior of interior door. Wiring to be concealed as much as possible. No insulation will be installed.
Landing/Stair: Construct exterior wood deck per applicable codes. The landing shall not exceed 42" x 42". All beam(s), joists and support system to be pressure treated lumber (AWW). Support posts shall be set on concrete piers attached with proper brackets. Piers shall be set on undisturbed or compacted soils. Landing to be finished grade pressure treated dimensional fir or pine similar to "outdoor wood" or equal, or cedar. Floorboards shall be spaced 1/4" apart and secured with non-corrosive deck screws. Ledger(s) shall be lagged to structural framing and joists shall be supported with hangers at each end. The landing shall not be more than 1/2" below the leading edge of the threshold and shall slope away from the structure at 1/4" per 1 foot. A guardrail shall be required if the floor of the deck is more than 30" above finished grade. Finish grade below deck shall be graded and raked to drain properly. Stairs shall be required if the landing is more than 9" above grade at the step. Stairs shall be not less than 36" net width. Rise and run shall meet UBC. Materials used on the stair shall be the same as used on the deck. Use 2x12 stringers and two 2x6 for each tread. If stringers are cut, ends of treads to extend 1/2" beyond stringers. Simpson Tread Angles are acceptable. A single handrail shall be required if there are more than 4 risers. All railings shall be as follows; Posts to extend through deck floor and solidly secured to joists. Top rail to be 2x4 on edge and shall be continuous with full length lumber (up to 16'). Any joint beyond 16' to be at post. Top of rail to be 3'-6" above floor of deck. Balusters to be vertical, 2x2 @ not more than 4" clear between each baluster secured to rail and joist with minimum (2) each 2-1/2" galvanized or treated screws at both rail and joist. Edges to be slightly rounded and sanded smooth with no splinters.
Location:

147. FRAMING, CLOSE-IN EXTERIOR OPENING (SIDING)
At location(s) noted below, frame in existing exterior opening with 2x studs on 16" centers. Provide all necessary support for upper structure. Install minimum R-19 batts insulation in cavity and install 6 mil poly vapor barrier on

interior side. Install matching siding on exterior and paint to match surrounding surfaces. Siding must be matched to existing with no obvious joints. Interior shall be patched and sealed to match surrounding surfaces.
Locations(s):

149. FRAMING, JOIST, REPLACE
At location(s) noted below, demo all damaged floor joists. Install new 2" x 8" joists, install per code using proper hangers. Fasten to flooring above using construction adhesive.
See other for related flooring spec.
Location(s):

150. FRAMING, JOISTS, SISTER
At location(s) noted below, install joists to brace floor. Sister to existing joist as necessary. Extend new joist member the full length of defective joist. Nail to joists at each end using (3) 6d nails and every 32" O. C. staggering nails. All new members to run full length without joint. Where abutting headers, use joist hangers. Fasten to flooring above using construction adhesive. Installation to be per code.
Location(s):

151. FRAMING, SUBFLOOR, REPAIR
At location(s) noted below, remove and properly dispose of all damaged flooring materials down to the floor joist. Install 3/4" tongue and groove, CDX plywood decking, (or as needed to make a flush transition), glued with construction adhesive and nailed 8" on center using screw shank or cement coated nails. Installation and fastening to be per manufacturer's recommendation.
Location(s):

152. FRAMING, TRUSS ROOF, NEW
Construct a truss roof per the attached drawing. The trusses used shall be energy heel type construction and meet all local load and span requirements. Framing shall include barges for over hang as drawn. The drawing is intended for reference only. Construction shall be in compliance with the UBC. Sheath the trusses with 1/2" OSB or other as appropriate. All holes for penetrations shall be cut to fit as tight as possible or within allowable clearances.

157. FURRING, WALLS
At location(s) noted below, install 1" x 2" furring strips @ 16" on center over existing framing or over masonry wall(s) in order to support GWB to match surrounding areas. Fasteners shall be nails and (for masonry walls) a manufacturer recommended adhesive. Strips to be straight and true, plumb or level.

158. FURRING, WIRING/PLUMBING
At location(s) noted below, install 2X furring @ 16" on center over existing framing or over masonry wall(s) in order to cover existing wiring and plumbing. Construction shall support GWB to match surrounding areas. Fasteners shall be nails and (for masonry walls), a manufacturer recommended adhesive. Furring to be straight and true, plumb or level.
Location(s):

159. GLASS, REPAIR
At location(s) noted below, remove and properly dispose of the broken glass, including all glazing materials. Install a piece of Low-E, Argon filled insulated glass sized per the existing opening and glazed with appropriate glazing materials. Prime any bare wood before glazing. If glazing putty is to be used, putty shall be straight, neat, and height of glazing at glass to match interior glazing height. Glass at all baths to be obscure. If the sash has removable glazing strips, they shall be retained for reuse unless broken, in which case it shall be the contractors responsibility to replace the glazing strips with like pieces.
Location(s):

160. GUTTERS, NEW/REPLACE
At location(s) noted below, remove and properly dispose of gutters and downspouts from the structure and the site. Install seamless, prefinished vinyl gutters and downspouts with all required ells, miters, hangers and other accessories to insure proper anchorage and proper drainage of all roof surfaces. Slope gutters to downspouts 1/16"

per foot minimum and provide basket strainers to top of all downspouts. Hangers and/or brackets shall be installed per industry standards or code.
Location(s):

167. HANDRAIL, EXTERIOR
At location(s) noted below, remove and properly dispose of the handrail and associated parts. Install a wood handrail system made of "outdoor wood" or cedar. AWW will not be acceptable. The top rail shall be 2x4. The newel post(s) shall be 4x4. The balusters shall be 2x2. The top rail shall be between 34" and 36" above the nose of each tread. There shall not be more than 4" clear space between the balusters. The newel post shall be attached solidly to the stringer using lags or through-bolts. The handrail will be installed with the 2" side facing up and will have eased edges. The balusters shall be cut on the top open grain end at a bevel so as to not collect water. It will be the contractors responsibility to provide adequate backing to make a sturdy rail system. All fasteners shall be galvanized, stainless steel or ceramic coated, and be sized properly for the application.
Location(s):

170. HEATING, BASEBOARD ELECTRIC
At location(s) noted below, install electric baseboard heating unit per code. To include built-in thermostat. Cut base and install snug against wall firmly secured with screws. Connect electrical and test operation of unit and thermostat. Install new circuit if needed. Length of until shall be sized for the area to be heated. All manufacturer instruction books and warranties to be provided to owner.
Location(s):

171. HEATING, BOILER, REPLACE
Remove and properly dispose of the existing boiler. Install a XXX BTU input boiler complete with controls, shut off valve, check valve, draincock, and automatic feed, pressure gauge and thermometer. Attach tot he existing distribution system. Inspect distribution system for any instruction books and warranties to be provided to owner.
Gas: Use Trianco Heatmaker HW or H Series or equal, installed direct vent.
Oil: Use Trianco D-MAX Low Mass Boiler installed direct vent.

172. HEATING, CHARGE GLYCOL
Charge the existing hydronic system with non-toxic glycol (Dowfrost or equal). Drain and properly dispose of the existing liquid in the system. Recharge and purge the system so that it operates properly.

173. HEATING, DUCT INSULATION
At location(s) noted below, wrap heating ducts in crawl space with R-15 foil backed fiberglass insulation and secure and seal all seams with foil tape.
Location(s):

174. HEATING, DUCT CONSTRUCTION, REPAIR AND SEALING
NEW: At location(s) as noted on the drawings, install furnace ducts. Size and installation to be per UMC. Cut in additional supply vents at the below noted location(s). Install the appropriate supply register grill(s).
All joints to be properly supported and no less than 2 screws per joint. Duct work shall be completely airsealed using an approved mastic similar to "RCD" or equal. Duct tape is not allowed.
REPAIR: At location(s) noted below, repair and properly support existing ductwork. All joints to be properly supported and no less than 2 screws per joint. Duct work shall be completely airsealed using an approved mastic similar to "RCD" or equal. Duct tape is not allowed.
SEAL: Duct work shall be completely airsealed using an approved mastic similar to "RCD" or equal. Duct tape is not allowed.
Location(s):

175. HEATING, DUCTWORK FOR FURNACE
At location(s) as noted on the drawings, install furnace ducts. Size and installation to be per UMC. All joints to be hung, screwed and sealed with duct mastic. Duct tape will not be accepted.

176. HEATING, FORCED AIR FURNACE, GAS/OIL

Remove and properly dispose of the existing furnace. Existing furnace shall be destroyed to prevent reuse. Install a naturally aspirating or direct vent, closed combustion, forced air furnace, sized properly for area of dwelling. Installation shall be inclusive of all electrical, plumbing, etc., necessary for a complete installation. Connect to existing duct system. Connection of existing supply and return to the furnace may be via flex connectors. Installation to be complete, including registers, returns, wall thermostat in central area, ducts, electrical, plumbing, filter, permits and removal of debris. Filter system shall be easily accessible by the owner and shall be designed for disposable type filters. Duct work shall be completely airsealed using an approved mastic similar to "RCD" or equal. Duct tape is not allowed. Repair all affected surfaces to match existing as close as possible. contractor to provide access to furnace per code. All work and venting to be complete with furnace operating. Supply (4) filters to owner. All manufacturer instruction books and warranties to be provided to owner.
Install at location noted:

177 HEATING, SERVICE/TUNE
Service gas furnace as outlined. After servicing, the mechanical contractor shall leave a certificate on the furnace indicating his/her name, the work or repairs completed, and the date. Clean and adjust the system for proper operation. On forced air systems, this shall include cleaning the blower motor and fan assembly, installing new air filters and replacing blower motor drive belts and testing of combustion regulators. On oil fired systems, this shall include cleaning the oil tank (removing condensation and sediment), fittings and lines and replacing fuel filters and testing of combustion regulators. On all fossil fuel heating appliances, the heat exchangers, vent connectors and vents shall be inspected for damage or deterioration. Vent connectors and vents shall be cleaned. Ductwork shall be cleaned only when specified. When necessary or specified replace thermostat. Contractor to operate unit long enough to establish proper operation including any automatic parts and controls.

178. HEATING, HYDRONIC SYSTEM, NEW
Install a direct vent, high efficiency boiler and distribution system sized for the area to be treated. Installation shall be complete with controls, shut-off valve, check valve, zone valves, draincock, automatic feed, pressure gauge and thermometer. Install individual zones for the areas noted below. Install adequate lineal feet of baseboard/diffusers for the area to be heated. Installation will be by a licensed installer. All manufacturer instruction books and warranties to be provided to owner.
Gas: Use Trianco Heatmaker HW or H Series or equal, installed direct vent.
Oil: Use Trianco D-MAX Low Mass Boiler installed direct vent.
Zones:

179. HEATING, HYDRONIC ZONE, NEW
For area(s) noted below, install separate zone(s) and thermostat(s), including zone valve(s), related equipment and control wiring.
Area(s):

180. HEATING, SERVICE/TUNE
Service heating appliance. Clean burners, combustion chambers and flues of heating unit. Tune burner for optimum combustion. Install new filter(s). Adjust pilot. Contractor to operate until long enough to establish proper operation, including any automatic parts and controls.

181. HEATING, THERMOSTAT
Replace thermostat with digital, programmable unit. Mount at same location as existing and secure to wall using approved fasteners. Calibrate and set to match gas valve impedance. All manufacturer instruction books and warranties to be provided to owner.

182A HEATING, OIL DIRECT VENT SPACE HEATER
At location noted below or on drawing, install a direct vent oil fired space heater. Installation shall include connection to oil line plumbing and electrical service at the location noted. All effected surfaces shall be repaired and patched to match surrounding surfaces.
See related specs for fuel tank, line and filter.
Location:

182B HEATING, GAS DIRECT VENT SPACE HEATER
At location noted below or on drawing, install a direct vent gas fired space heater. Installation shall include connection to gas line plumbing and electrical service at the location noted. All effected surfaces shall be repaired and patched to match surrounding surfaces.
See related specs for fuel tank, line and filter.
Location:

183A. INSULATION, WALLS FROM UNIT INTERIOR
At location(s) noted below, from the interior, install fiberglass batt insulation to maximum R-value as space allows to all noted exterior walls from bottom plate to top plate. All spaces within framing to be filled with insulation, e.g. corners, outlets, switches, partition leads, around windows, etc. Expanding foam may be used to access inaccessible voids. Install 6 mil minimum moisture barrier to the inside surfaces. Moisture barrier shall have all penetrations and holes sealed off using poly tape.
Location(s):

183B. INSULATION, RAFTER CAVITY FROM ATTIC **(R-19 for bid purposes)**
At location(s) noted below, from the attic, install fiberglass batt insulation to maximum R-value as space allows or to R-38 total. Insulation shall be tight against the roof sheathing above and supported in an appropriate manner, e.g. metal insulation hangers between the rafters. (this will create a hot roof) All spaces within framing to be filled with insulation. Expanding foam may be used to access inaccessible voids. Install 6 mil minimum moisture barrier to the inside surfaces. Moisture barrier shall have all penetrations and holes sealed off using poly tape.
Location:

183C. INSULATION, CEILING FROM UNIT INTERIOR **(R-19 for bid purposes)**
At location(s) noted below, from the unit interior, install fiberglass batt insulation to maximum R-value as space allows or to R-38 total. Insulation shall be tight against the floor sheathing above if existing and supported in an appropriate manner, e.g. metal insulation hangers between the floor/ceiling joists. All spaces within framing to be filled with insulation. Expanding foam may be used to access inaccessible voids. Install 6 mil minimum moisture barrier to the inside surfaces. Moisture barrier shall have all penetrations and holes sealed off using poly tape.
Location:

183D. INSULATION, CEILING, RIGID
At location(s) noted below, from the unit interior and over existing ceiling surfaces, install 2" rigid insulation board. Prior to installation, remove all ceiling fixtures, trim and other materials that will interfere with the installation. Use Styrofoam or R-Max or equal as noted. Insulation shall be continuous over entire surface. All spaces to be filled with insulation, e.g. corners, partition leads, around plumbing and electrical, etc., using batts or spray in foam. Rigid insulation shall be applied using approved adhesive and/or fasteners designed for the application. Tape all joints using poly tape. Expanding foam may be used to access inaccessible voids. Install new 5/8" type "X" drywall. Attach to the framing with approved fasteners. Fasteners shall extend through the 2" rigid insulation and extend not less than 1" into the framing members. All outside corners shall receive metal corner beads, joints to occur at supports, tape and finish joints and fastening heads to a fire tape status.
Location(s):

184 INSULATION, FLOOR **(R-19 for bid purposes)**
At location(s) noted below, from the basement/crawl space, install fiberglass batt insulation to maximum R-value as space allows. Insulation shall be tight against the floor sheathing and supported in an appropriate manner, e.g. metal insulation hangers between the floor joists. All spaces within framing to be filled with insulation. Expanding foam may be used to access inaccessible voids. The insulation will be covered with Tyvek building wrap, or equivalent stapled to the floor joists, to act as an air but not a moisture barrier. Building wrap will be stretched tight without wrinkles or loose areas.
Location:

185A. INSULATION, ATTIC FIBERGLASS BATTS **(for bid purposes, 1 layer of R-19 and does not include airsealing)**

At the floor of the attic, insulate attic area using fiberglass batts insulation laid alternately perpendicular to prior layers. (to achieve R-38 minimum) All penetrations shall be properly sealed prior to insulating. Manufactured chimneys shall be properly protected from the insulation. No insulation shall touch the underside of the roof sheathing. Install baffles as needed to optimize the R-value to the exterior wall.

185B. INSULATION, ATTIC LOOSE FILL BLOW-IN CELLULOSE **(for bid purposes, 1 layer of R-19 and does not include airsealing)**
At the floor of the attic, insulate attic area using blow-in cellulose insulation. All penetrations shall be properly sealed prior to insulating. Manufactured chimneys shall be properly protected from the insulation. No insulation shall touch the underside of the roof sheathing. Install baffles as needed to optimize the R value to the exterior wall.

185C. INSULATION, ATTIC LOOSE FILL BLOW-IN FIBERGLASS **(for bid purposes, 1 layer of R-19 and does not include airsealing)**
At the floor of the attic, insulate attic area using blow-in fiberglass insulation. All penetrations shall be properly sealed prior to insulating. Manufactured chimneys shall be properly protected from the insulation. No insulation shall touch the underside of the roof sheathing. Install baffles as needed to optimize the R value to the exterior wall.

186A. INSULATION, DENSE PACK CEILING
Install blow-in cellulose insulation in the ceilings noted below to a point of density of 3.5 lb./cu. ft., or to a point that additional insulation cannot be added without causing the surface sheathing to pull away from the framing members. Drill holes in interior ceiling surface or exterior rim at ceiling joist area as noted to gain access to areas to be insulated. Install material with an insulation blower designed for the specific use of dense packing insulation. All access holes shall be filled with a plug and sealed. Note any fire blocking or other framing obstructions during installation to insure full application.
Area(s):

186B. INSULATION, DENSE PACK WALLS
Install blow-in cellulose insulation in the walls noted below to a point of density of 3.5 lb./cu. ft., or to a point that additional insulation cannot be added without causing the surface sheathing to pull away from the framing members. Drill holes in interior or exterior surface as noted to gain access to areas to be insulated. Install material with an insulation blower designed for the specific use of dense packing insulation. All access holes shall be filled with a plug and sealed. Note any fire blocking or other framing obstructions during installation to insure full application.
Area(s):

186C. INSULATION, DENSE PACK FLOOR
Install blow-in cellulose insulation in the floors noted below to a point of density of 3.5 lb./cu. ft., or to a point that additional insulation cannot be added without causing the surface sheathing to pull away from the framing members. Drill holes in interior or exterior surface or at exterior rim at floor joist area as noted to gain access to areas to be insulated. Install material with an insulation blower designed for the specific use of dense packing insulation. All access holes shall be filled with a plug and sealed. Note any fire blocking or other framing obstructions during installation to insure full application.
Area(s):

187. INSULATION, FOUNDATION, EXTERIOR
At location(s) noted below, install rigid insulation to the exterior side of the foundation wall to minimum of R-19. Use only insulation that is appropriate for use below grade. Excavate perimeter to footer. Install insulation from top of footer to mud sill. Insulation shall be attached to the foundation using adhesive and/or powder actuated nails. Exposed insulation shall be flashed or painted to protect from UV degradation. Foam or other appropriate insulation shall be installed around all plumbing and electrical penetrations. Backfill perimeter to finish grade. Grade shall be sloped away from structure to provide drainage.
Location(s):

188. INSULATION, FOUNDATION, EXTERIOR, SLAB
At location(s) noted below, install rigid insulation to the exterior side of the foundation wall to minimum of R-19. Use only insulation that is appropriate for use below grade. Excavate perimeter to 24" below the mudsill. Soil shall

be excavated out from wall from 24" below mudsill at a slope of 2" per foot. Compact soil. Install insulation from mudsill down wall 24". Insulation shall be attached to the foundation using adhesive and/or powder actuated nails. Install rigid insulation at the sloped soil. Exposed insulation shall be flashed or painted to protect from UV degradation. Foam or other appropriate insulation shall be installed around all plumbing and electrical penetrations. Backfill perimeter to finish grade. Finish grade shall be sloped away from structure to provide drainage.
Location(s):

189. INSULATION, FOUNDATION, INTERIOR, BATTS
At location(s) noted below, install fiberglass batt insulation to minimum of R-19 to all noted exterior foundation walls from footer to mudsill. All spaces to be filled with insulation, e.g. corners, partition leads, around plumbing and electrical, etc., using batts or spray in foam. Insulation shall be attached in a way that will insure it will stay in place.
Location(s):

190. INSULATION, FOUNDATION, INTERIOR, RIGID
At location(s) noted below, install 2" rigid insulation board to the interior side of the foundation wall. Use Styrofoam or R-Max or equal as noted. Insulation shall be installed from the top of the footer up the wall to the underside of the floor joists. In the void created at the rim joists, install friction fit fiberglass batts to R-19. All spaces to be filled with insulation, e.g. corners, partition leads, around plumbing and electrical, etc., using batts or spray in foam. Rigid insulation shall be applied using approved adhesive and/or fasteners designed for the application.
Location(s):

191. INSULATION, FOUNDATION, INTERIOR, SPRAY
At location(s) noted below, insulate with spray applied foam to minimum of R-19 to all noted exterior foundation walls. Insulate using a two component urethane foam. Applied in place density shall not be less than 2# per cu. ft. Apply a fire resistant cement based material over the foam. Insulation is to extend from underside of floor sheathing to footer without seams or breaks. Crawl space shall be maintained at 65 degrees minimum for 24 hours prior to application and for 3 to 5 days after or until cured. Operable ventilation grills shall not be covered and shall be left in a working condition. Non-operable ventilation shall be covered over. All spaces to be filled with insulation, e.g. corners, partition leads, around plumbing and electrical, etc.
Location(s):

192. INSULATION, GARAGE DOOR
Install a garage door blanket on the garage doors. Install per manufacturers recommendations.

193. INSULATION, MOBILE HOME, BELLY, BLOW-IN
At location(s) noted below, remove and properly dispose of the damaged rodent barrier and insulation. Install rodent barrier at all effected locations. Fasten rodent barrier adequately to support the blow-in insulation. Use Amoco Woven Geotextile #2002 or equal or Celotex or equal. Entire area of effected area to be protected with rodent barrier. Blow in Cellulose insulation to fill the void. Insulation shall be tight to underside of floor sheathing and fill all voids around plumbing and ducting. Any exposed holes in the exterior shall be filled and finished to match surrounding areas.
Location(s):

194. INSULATION, MOBILE HOME, BELLY, BATTS
At location(s) noted below, remove and properly dispose of the damaged rodent barrier and insulation. Install fiberglass batts to minimum R-30 in floor/belly. Support with rodent barrier. Use Amoco Woven Geotextile #2002 or equal. Entire area of effected area to be protected with rodent barrier.
Location(s):

195. INSULATION, PIPE WRAP
At location(s) noted below, install foam pipe wrap insulation on all exposed water supply lines. All corners and joints shall be insulated. Foam wrap shall be secured using manufacturers recommended tape and adhesives.
Location(s):

196. INSULATION, RIGID AT ROOF
At location(s) noted below, after old roof is removed down to sheathing (see roofing specs for related work), install 2x6 furring on each rafter. Install 4" R-Max or equal (R-30) to exterior side of roof sheathing between furring. Secure insulation to roof framing members, furring and/or sheathing. the roofing will be secured to the furring.
Location(s):

197. INSULATION, RIM
Insulate inside of rim joist around interior perimeter of foundation wall. Use fiberglass batt insulation or rigid foam providing a minimum R-19 is maintained.

198. VAPOR BARRIER, 6 MIL POLY
At location(s) noted below, install 6 mil minimum polyethylene membrane moisture barrier to the inside surfaces. Poly shall be installed using staples on framing members. Poly is to be stretched tight without wrinkles or folds. Joints shall be overlapping and seams shall be sealed using poly tape. All penetrations shall be sealed using poly tape.
Location(s):

200 INSULATION, WALL, RIGID AND SIDING
Unless otherwise noted, install rigid insulation package to all exterior walls of the heated portion of the structure. Remove all existing trim, vent covers, flashings, etc. except brickmould at doors and windows. On all exterior surfaces, including the gable ends, install 2 x 2 furring vertically at 2' on center and horizontally at 8' on center. Install furring around each door, window, electric meter base and other exterior mounted structures. At all walls of the heated portion of the structure, install 1-1/2" rigid extruded polystyrene (blue or pink Styrofoam) or polycyanurate (R-Max) insulation tight to existing exterior wall and furring strips. Seal around all penetrations using expanding foam or caulk. Install T-1-11 siding on all walls of the structure. Install jamb extension and trim out at doors and windows with 1x cedar. Install 1x cedar at battens and at top of siding cut under eaves and gables. Use "Z" metal at horizontal butt seams. Reinstall all vent covers, flashings and hardware removed in order to install siding. All joints to be fit accurately and tight. Use galvanized nails. All finished surfaces shall be smooth and ready for stain/paint.

201. INSULATION, WATER HEATER
Install R7 (or better), fiberglass insulating blanket to outside of existing water heater, all seams to be covered and sealed full circumference by a belt or duct tape. Mark access panels on outside of wrap.

202. MOBILE HOME CEILING PANEL(S)
At location(s) noted below, remove and properly dispose of the damaged ceiling panel(s). Retain all usable trim strips. Install new ceiling panels. Match existing ceiling panels and trim strips. Trim out as needed.
Location(s):

203. MOBILE HOME EXTERIOR DOOR
Remove and properly dispose existing door(s) at the below noted location(s). Install metal insulated, prehung, mobile home exterior door(s) sized to best fit the existing rough openings. Jamb shall include pressure type weatherstrip, adjustable sweep and/or adjustable threshold, keylock and a single cylinder deadbolt both keyed alike (with owner approval). Replace trim inside and out using matching trim
Location(s):

204. MOBILE HOME SNOW ROOF
Install a stand alone roofing structure system per design. Roof is to be supported by posts installed next to the structure properly secured to an adequate footing. Roof shall be constructed with prebuilt trusses. Trusses are to be energy heel type to allow for R-38 insulation. Baffles shall be installed between all trusses at heel to allow proper ventilation. Minimum 1/2" plywood or OSB shall be used for roof sheathing. Minimum 2' eaves and overhangs are required. 1x6 cedar facia shall be used on entire perimeter. T-1-11 shall be used at gables and under overhang to sister with existing siding. "Z" metal shall be used at all horizontal joints. 1x4 cedar shall be used at vertical joints and for trim out. Blocking with screen shall be installed at overhang between tails to provide eave ventilation.

Appropriate sized gable vents shall be installed at all gables. All exposed wood shall be painted to match existing structure or per owner selection. All vents, flues, etc., shall be extended through new roof and be properly booted/flashed.

205 OUTLET GASKETS
Install closed-cell foam outlet and switch gaskets behind the cover plate of all electrical outlet and switch cover plates.

206. OIL FILTER
Install an oil filter in line immediately after the shut off valve down stream of the oil tank. Use a goldenrod or equal. Excessive oil spilled by the contractor is the responsibility of the contractor.

207. OIL TANK, MOVE
Move the oil tank away from the structure. Tank shall not be in contact with the structure or under the any part of the common roof. Reinstall all plumbing. Extension of the existing line will be acceptable only with the proper materials using flared fittings.
Install tank on existing stand
Install tank of steel stand as commercially available for the size of the tank

208. OIL TANK, NEW
At location noted below, install a 300 gallon steel oil tank on a steel stand. Height of stand will be dependent upon the location relative to the burner. Tank and stand shall be as commercially available.
Location:

209. PAINT, INTERIOR, VAPOR BARRIER PAINT
At location(s) noted below, paint ceiling using vapor barrier and acrylic latex paints. Assure that all furniture, curtains, rugs, etc., have been removed from room and/or properly protected. Properly protect floor and trim from paint. Assure that all surfaces have been prepared for paint. Inspect all surfaces and fill all holes and cracks that will not be concealed by new paint. Make minor plaster repair on ceilings and ceiling, sand to a smooth. Apply (1) coat of prime or vapor barrier paint as directed and (1) coat of finish paint on all ceilings noted. Clean paint from hardware and all other surfaces not intended for paint. Use medium quality paints. Color selection by owner. Contractor shall be responsible for removal of all items in rooms to enable the painting work to be completed.
Location(s):

210 PAINT, EXTERIOR
Paint exterior of structure using all weather exterior latex paint. Body and trim will be painted in two colors or as determined by assessor with owner cooperation. Entire exterior wall surfaces shall be scrapped and/or sanded to remove all loose paint and splintered wood. Remove all hardware attached to exterior of structure. Brush or sweep all surfaces free of dust and dirt. Paint exterior surfaces using a sprayer and then backrolling all surfaces while paint is still wet. Reapply as needed to ensure a complete and even coat. Hand paint trim with rollers and brushes. Protect all unpainted surfaces, plants, walks, sills, operation hardware on windows, etc. Mask all windows, doors, etc. not intended to be painted. After masking is removed, clean up any errant paint. Do not leave runs. Reinstall all hardware back on structure. Operating windows will have weatherstripping removed prior to painting and edges of sashes shall be painted. Do not paint hardware. Reinstall weatherstripping after paint is dry. Doors shall have weatherstripping removed prior to painting. Reinstall weatherstripping after paint is dry.

224. PLUMBING, FUEL LINE
Install appropriate plumbing (oil/gas/LP) from source to the appliance(s).
For LP and Natural Gas: Only black iron piping with threaded fittings shall be used. Flex pipe capable of the pressure shall be used at connection to appliance only. A shut off valve shall be installed as close to the source as possible and at termination of black iron pipe.
For Oil: Soft copper may be used providing it is properly protected. A shut off valve shall be installed as close to the source as possible and at termination. A water/sediment filter shall be installed just below the shut off valve at the source. Use Goldenrod or equal.

225. PLUMBING, GAS LINE, REPLACE
Remove and properly dispose of the broken/damaged gas line section and cap at nearest supply connection. Provide and install new approved equally sized gas line section, to replace existing inclusive of all connections, elbows, runs - both vertical and horizontal, supports, caulking, and cleanup. All surfaces affected shall be repaired and patched to match surrounding surfaces. Work to be in full compliance with UPC and UMC.

230. PLUMBING, LEAK REPAIR
At location(s) noted below, repair leaking plumbing. Include all necessary labor and materials for complete repair, including piping/fittings inclusive of all hookups, connections, associated hardware, caulking, and cleanup. All interior surfaces affected shall be repaired and patched to match surrounding surfaces.
Location(s):

232. PLUMBING, MIXING VALVE
Install a mixing valve on the water line servicing the toilet(s). Valve shall be installed as near the water heater as possible. Installation shall be inclusive of all hookups, connections, associated hardware, caulking, and cleanup. All interior surfaces affected shall be repaired and patched to match surrounding surfaces.

235. PLUMBING, P&T VALVE, REPLACE
Replace the pressure and temperature relief valve on the water heater. Install the drain tube to 18" above the floor. Use appropriate materials.

251. PLUMBING, SUPPORT
At location(s) noted below, support or properly hang the plumbing runs consistent with the UPC. Use materials appropriate for the location and application. Shim or secure as needed to prevent movement.
Location(s):

259. PLUMBING, UTILIDOR
Construct an insulated utilidor to house and protect the exposed plumbing. Unit shall be sized to house all the plumbing in a single structure and be able to insulate a minimum of R-38. Unit shall be constructed of AWW material and shall extend into the ground not less than 18" below finished grade with soils backfilled against the walls higher up. The floor of the unit shall be insulated to R-19 with rigid roam capable of contact with soils. Insulation shall be solid and continuous from the floor of the unit to the heated area of the structure. The insulation in the immediate area around the plumbing shall be left loose so as to allow heat from the structure to infiltrate. The exterior perimeter of the unit shall be airsealed and one panel shall be screwed to the framing members for access.

264 WATER HEATER, ON-DEMAND
At location noted below, install residential direct-vent tankless on-demand gas or oil water heater (Aquastar 125B, Toyostove, or equiv.) and all required connections and venting materials. Plumb into existing hot water system, installing separate zone valve. Interior shall be repaired and patched to match surrounding surfaces.
Location:

265. PLUMBING, WATER HEATER, ELECTRIC, GAS OIL
At location noted below and/or on the drawing, remove and properly dispose of the existing water heater. Install a (5) year guaranteed, glass lined, water heater inclusive of all water and electrical and/or fuel hookups, connections, associated hardware and cleanup. All work to be in full compliance with UPC, UMC, and NEC. Installation shall include a mixing valve for servicing the toilet(s) and the dedicated supply lines to the toilets as needed. Installation shall include a P&T Valve with drain tube to within 18" of the floor. All surfaces affected shall be repaired and patched to match surrounding surfaces.
Location:

266. PLUMBING, WATER HEATER, POINT OF USE
At the kitchen sink, install a "point of use" (2) gallon electric water heater. Use the model as available from Alaska Pipe and Supply. Provide an electrical circuit as required. Plumb into water line for the kitchen sink only. Install per manufacturers recommendation. Provide owner with all manufacturers paper work.

267 ROOF, APPLY COATING

Over entire roof surface apply a one or two coat roof coat system as noted. Similar to Plas-T-Cote or equal. Prepare the surface by removing all boots and flashings and other hardware attached to the roof surface. Remove or repair all loose roofing materials. Patch all potential cracks or leaks around penetrations using a compatible sealant. Sweep entire surface clean. Apply roof coating per manufacturers recommendations. Apply extra coats as needed to seams, fasteners, etc. Coating shall extend over sides of roof to drip edge including plywood edging if used as a drip edge. Reinstall all flashings, boots and other hardware.

268. ROOF, REMOVE EXISTING SHEATHING

At the location(s) noted below, remove existing roofing down to sheathing. Remove sheathing to expose rafters. Properly dispose of all demolished materials. Inspect the subsurface materials for excess deterioration and report to the Project Manager.
Location(s):

269. ROOF, INSTALL NEW RAFTER SYSTEM

At the location(s) noted below, remove enough of the existing roofing down to expose rafters. Properly dispose of all demolished materials. Inspect the rafter materials for excess deterioration and report to the Project Manager. Install rafter system as designed. Installation shall include rafters properly spaced and supported. Install sheathing or purlins over rafters. Sheathing or purlins shall be fastened to rafters per code. sheathing shall be 1/2" OSB or CDX Plywood. All end joints to be supported. Joints to be staggered. Purlins shall be 1 x 4 Pine. See drawings.
Location(s):

270 ROOF, REMOVE EXISTING ROOFING MATERIALS

At the location(s) noted below, remove existing roofing down to sheathing. Properly dispose of all demolished materials. Inspect the subsurface materials for excess deterioration and report to the Project Manager.
Location(s):

271. ROOF, METAL, REPAIR

At location(s) noted below, prepare and repair the metal roof surfaces and sub surfaces as indicated. Re-secure the metal roof and associated flashings with screws designed for the application and properly used. Seal all joints, flashings, penetrations, screw holes, etc., that might allow moisture penetration. Use a minimum amount of the proper sealant for the application. Work appearance shall be neat and professional.
Location(s):
Install any missing flashings at gable, eave, transitions, etc.
Repair plumbing stack, ensure the penetration is sealed.
Install a boot slashing at all plumbing penetrations.

272 ROOF, METAL, NEW

Install 28g "Skyline" painted metal, hidden fastener roofing as supplied by BHP Steel Building Products or equal. Include all flashings at valleys, ridges, gables and eaves and any/all flashings at vertical intersections with walls or masonry as necessary. Install and fasten per manufacturers instructions. Metal sheets shall be turned up under the flashing at the high end of the roof and turned down at the low or gutter end to prevent water from running back along the underside of the sheets. The use of closure strips at the eave and ridge are/not required. Roofs less than 2:12 shall require sidelap sealant. Install Ice and Water Shield at all eaves from the edge of the eave up roof not less than 6'. Properly seal and/or flash all pipes, vents or other penetrations through the roof. Replace all existing boots. Replace any required attachments that were removed including antennas, bracing, electrical masts, etc. Maximum eaves overhang shall be 1.5 inches and roofing shall lap away from prevailing winds. Full length sheets are to be used. Remove and properly dispose of debris. Use BHP, ASC Pacific or equal painted steel roofing. Roof shall have not less than 20 year warranty. Color selection by owner from within standard color selections. Galvanized and aluminum roofing will not be allowed.
Note: Clean out and reattach existing rain gutters as needed.

273. ROOF, METAL, REPLACE

At the location(s) noted below, remove existing roofing down to sheathing, purlins, or other subsurface. Inspect the subsurface materials for excess deterioration and report to the Project Manager. Install Ice and Water Shield at all

eaves from the edge of the eave up roof not less than 6'. Install painted metal roofing including all flashings at valleys, ridges, gables and eaves, and any/all flashings at vertical intersections with walls or masonry as necessary. Properly seal and/or flash all pipes or vents extending through roof. Replace all existing boots. Replace any required attachments that were removed. Remove and properly dispose of debris. Use ASC pacific or equal painted steel roofing. Roof shall have not less than 20 year warranty. Color selection by owner.
Location(s):

274. ROOF, SEAL LEAKS
At location(s) noted below, seal all leaks in the roof. Seal at all noted penetrations. Use appropriate materials for the application.
Location(s):

275. ROOF, SHEATHING, REPLACE
At location(s) noted below, remove and properly dispose of all roofing materials down to the framing members. Install 1/2" CDX plywood or 1/2" OSB sheathing nailed per code. All end joints to be supported. Joints to be staggered.
Location(s):

276. ROOF, THREE TAB, REPAIR
At the location(s) noted below, install three-tab roofing to replace lost or damaged shingles. Match color as close as possible. Blend in new to old in a professional manner. Replace any attachments that were removed.
Location(s):

277. ROOF, 90# ROLLED ROOFING, REPLACE
Remove and properly dispose of all roofing down to sheathing. Install galvanized flashing or bituthane membrane at all valleys, around all edges, and vertical intersections with walls or masonry if existing. Metal step flashings and/or counter-flashings shall be used wherever appropriate to ensure a tight roof. All penetrations shall be properly flashed. Install ice and water shield at all eaves not less than 6' up from eave edge. Install 90# rolled roofing per manufacturer's recommendations. Replace any attachments that were removed. Provide manufacturer's warranty and related paperwork to the owner. Color selection by owner.

278. ROOF, TORCHDOWN
At the location(s) noted below, remove and properly dispose of existing roofing and install a complete torchdown roofing system. Remove and properly dispose of all existing roofing materials down to the sheathing. Prepare the surface for torchdown roofing system. Install per manufacturer's recommendations. Install all necessary flashings at the eaves, gables, ridges, transitions, etc.
Location(s):

279 ROOF, EPDM WITH INSULATION
Over entire roof surface apply 2” minimum extruded polycyanurate (R-Max) or polystyrene (Blue Board) rigid insulation and EPDM roof membrane. Prepare the surface by removing all boots and flashings and other hardware attached to the roof surface. Remove or repair all loose roofing materials. Patch all potential cracks or leaks around penetrations using a compatible sealant. Sweep entire surface clean. Apply rigid insulation fit tight edge to edge over entire roof surface extending beyond heated perimeter by not less than 4”. Fasten insulation to structure using adhesive or appropriate fasteners. Sweep entire surface of insulation prior to installation of EPDM membrane. Install EPDM membrane seamless over entire roof surface. Install per manufacturers recommendations. Membrane shall extend over sides of roof to drip edge. Reinstall all flashings, boots and other hardware.

280. ROOM, FINISH
At the location noted below, demonstrate all damaged or unusable GWB, insulation, vapor barrier, etc. Finish as follows:
At Floor: Install 3/4" minimum underlayment graded plywood over entire floor. Caulk and seal any penetrations.

At Walls/Ceiling: Install, as needed, R-19 fiberglass batts in all exterior walls including exposed rim between ceiling and floor above. Install continuous poly vapor barrier on all exterior walls. Seal all penetrations with poly tape.

Install 1/2" drywall on all walls and ceiling using greenboard at required wet areas. Drywall to be installed using screws penetrating joists a minimum of one-half length of screw or per code. Outside corners to have nailed metal corner bead. Tape all joints and apply (1) coat of mud on all joints and nails.

Trim and Finish: Trim out interior side of window(s)/door(s) with trim matching other trim in the structure. All nails to be finish and counter-sunk. All joints and nails holds shall be caulked smooth. If trim is pre-finished, joints and nail holes shall be filled with wood putty to match trim color.
Location:

281. ROOM, FINISH, BATH
At the location noted below, demonstrate all damaged or unusable GWB, insulation, vapor barrier, etc. Finish as follows:

Floor: Install underlayment rated plywood over entire floor area. Float sub-floor or shim as needed to provide a level and sturdy floor surface. Precisely locate and cut out for all floor penetration that will be needed.

Walls/Ceiling: Install R-19 fiberglass batts in all exterior walls including exposed rim between ceiling and floor above. Install continuous poly vapor barrier on all exterior walls. Seal all penetrations with poly tape. Install continuous poly vapor barrier on all exterior walls. Seal all penetrations with poly tape. Install 1/2" drywall on all walls and ceiling using greenboard at required wet areas (behind sink and toilet, around tub to ceiling). Drywall to be installed using screws penetrating joists a minimum of one-half length of screw or per code. Outside corners to have nailed metal corner bead. Tape all joints and apply (1) coat mud on all joints and nails.
Location:

282. ROOM, FINISH, GWB/FIRETAPE ONLY
At location noted below, demolish all damaged or unusable GWB, insulation, vapor barrier, etc. Finish as follows:

At Walls/Ceiling: Install, as needed, R-19 fiberglass batts in all exterior walls including exposed rim between ceiling and floor above. Install continuous poly vapor barrier on all exterior walls. Seal all penetrations with poly tape. Install 1/2" drywall on all walls and ceiling using greenboard at identified future wet areas. Drywall to be installed using screws penetrating joists a minimum of one-half length of screw or per code. Outside corners to have nailed metal corner bead. Tape all joints and corners and apply (1) coat mud on nail/screw head.

283. SEISMIC
Install seismic strapping around water heater. Strap shall be securely fastened to the wall structural members.

287. SMOKE DETECTOR
At location(s) noted below, install new battery operated, photoelectric smoke detector with power-on indicator. Unit to be UL approved and installed according to manufacturer's recommendation. Use ASI/Electronics Model ESA 4000 or equal. Provide owner with all manufacturer's paper work.
Location(s):

289. STAIR, INTERIOR, FOLDING
At attic access, install pre-assembled folding stairway. Stairway to be medium quality and constructed of 1" pine stock and shall be complete with all hardware, including heavy duty springs and handrail. All cutting of structural members, bracing, and finishing of installation to be per code. Exposed trim to be installed with tight miter joints, primed, and painted. Install 1/2" x 3/8" self adhesive, open cell foam gasket around perimeter of opening to airseal attic.

290. STAIR, INTERIOR, RISERS, REPLACE
At location(s) noted below, remove damaged riser(s). Install 2x nailers with glue and screws on each stringer for replacement riser. Install #1 common pine or 1/2 AC plywood with glue and screw shank nails. Reinstall old flooring or to match existing.
Location(s):

291. STAIR, INTERIOR, TREAD REPLACE
At location(s) noted below, remove damaged tread(s). Install 2x nailers with glue and screws on each stringer for replacement tread. Install pine stepping stock tread with glue and screw shank nails. Reinstall old flooring or to match existing.
Location(s):

295. TRIM, INTERIOR
At location(s) noted below, trim out interior side of window(s)/door(s) and/or base with trim matching other trim in the structure. All nails to be finish and counter-sunk. If trim is to be painted, all joints and nail holds shall be caulked smooth. If trim is pre-finished, joints and nail holes shall be filled with wood putty to match trim color.
Location(s):

299. VENTILATION, ARCTIC VENTS
At location(s) noted below, install arctic vents per manufacturer's recommendations. Vents shall be installed at location noted at height from floor as noted. Use "Fresh 100" or equal. All affected surfaces shall be repaired to match surrounding surfaces.
Location(s):

300. VENTILATION, ATTIC, RIDGE VENT
Install ridge venting to provide attic ventilation per code requirements. Ridge venting is to be installed per manufacturer's specifications. Install on entire ridge short the last 5' at each gable end. Install membrane to prevent pests. All holes to be cut accurately and vents to be flashed and sealed properly according to manufacturer/trade procedures. Protect roof from all damage during installation.

301A. VENTILATION, ATTIC, EAVES/SOFFITS
Install screened eave vents in eave/soffit. Holes to be neatly cut and vents installed squarely with corrosion resistant fasteners. Repair all affected surfaces. Install vents in every other truss space minimum.

301B. VENTILATION, EAVE BAFFLES
At locations noted below, install eave baffles between all trusses from heel up rafter the length of baffle (48") and with spacing ridges against roof sheathing. Baffles shall be Rafter-Mates, Proper Vents or equal. Cardboard baffles will not be acceptable. Baffle must have "ridges" built in to ensure that the baffle will not get pressed against the underside of the roof sheathing. Install using staples or other acceptable fasteners.

302. VENTILATION, ATTIC GABLE
Install gable vents using prefabricated aluminum or galvanized sheet metal vents including screening. Install to conform to venting requirements per code. Repair all affected surfaces. Install (1) at each gable.

304. VENTILATION, CRAWL, SEAL OFF
Seal off all crawl space vents. Install rigid insulation to R-19 minimum. Secure in place with fasteners. If the insulation is exposed to sunlight, cover with exterior grade plywood or flashing.

308. WINDOW, REMOVABLE STORM UNITS
At location(s) noted below, remove deteriorated storm window materials including nails, screws, staples, etc. that would interfere with the proper installation of new units. Storm panels shall be not less than 1/8" thick up to 16 square feet. Over 16 square feet shall be 1/4" glass. Storm units shall have metal edging that is securely attached to the glass. Units shall be installed on the exterior using metal clips. Clips shall be placed not less than 2 per side but spaced not more than 24" apart on any side. Clips and screws shall be stainless or aluminum and resistant to deterioration. Units shall be installed against a solid. smooth surface that will provide a constant contact seal with the storm panel.
Location(s):

309. WINDOW, REGLAZE SASH I. G. UNITS
At location(s) noted below, remove deteriorated glazing and all remaining glazing materials, and install new insulated glass. I. G. units to be Low-E, Argon filled with not less than 3/8" air space. . Glass shall be not less than

1/8” thick up to 16 square feet. Over 16 square feet shall be 1/4” glass. Glaze into sash using specialized glazing caulk or if sash is so equipped, using removable glazing strips. Spackling is not acceptable. Clean window after installation of all glazing materials. Leave identifying stickers for inspection purposes. Removal of stickers will be owners responsibility.
Location(s):

310. WINDOW, REGLAZE SASH SINGLE PANE UNITS
At location(s) noted below, remove deteriorated glazing and all remaining glazing materials, and install new single pane glass. Glass shall be not less than 1/8” thick up to 16 square feet. Over 16 square feet shall be 1/4” glass. Glaze into sash using specialized glazing caulk or if sash is so equipped, using removable glazing strips. Spackling is not acceptable. Clean window after installation of all glazing materials. Leave identifying stickers for inspection purposes. Removal of stickers will be owners responsibility.
Location(s):

311. WINDOW, SASH LOCK, INSTALL
At window(s) noted below, install new window latches of the type required by window unit. Install as per manufacturer's recommendations as not to interfere with the window operation.
Window(s):
Location(s):

312. WINDOW, VINYL, JAMB EXTENSION
At location(s) noted below, install interior jamb extension, and trim style to match other trim of structure. Wood jamb extension shall be clear (stain)or finger joint (paint grade) pine. All nails to be finish and counter-sunk. If jamb and/or trim are to be painted, all joints and nail holes are to be caulked smooth. If jamb and/or trim is to be stained or clear sealed, joints and nail holes shall be filled with wood putty to match.
Location(s):

313. WINDOW, VINYL
At location(s) noted below, remove and properly dispose of the existing noted window(s). Install a vinyl casement/awning/fixed window, as noted, for the particular opening. Window shall be manufactured to fit the existing RO and shall include Low-E, Argon filled, insulated glass with not less than 3/8" airspace. Use units as manufactured by Insulate Industries, Alpine Windows, or equal. Except on mobile homes, installation shall include exterior molding. Unit shall include screen and all hardware. Window to be installed plumb and true, and shimmed at corners per manufacturers recommendations. Operator hardware to be Roto style on casement, and lever or roto style on awning. All operable windows shall include positive acting cam type locks. Remove identifying stickers and clean window after installation.
Location(s) and Type(s):

314. WINDOW, VINYL, NEW HOLE
At location(s) noted below, cut hole in wall and install window(s). Construct to meet height and width egress requirements. Install a vinyl casement window that meets or exceeds egress requirements. When window is open, bottom of opening (top of hardware cover), shall not be more than 42" above the floor. Window shall be Low-E, Argon filled, insulated glass with not less than 3/8" airspace. Use units as manufactured by Insulate Industries, Alpine Windows, or equal. Except on mobile homes, installation shall include exterior molding. Unit shall include screen and all hardware. Window to be installed plumb and true, and shimmed at corners. Operator to be Roto style. Remove identifying stickers and clean window after installation
Location(s):

315. WINDOW, VINYL, REVISE RO FOR EGRESS
At location(s) noted below, remove existing window(s). Revise height and/or width to accommodate egress requirements. Install a vinyl casement window that meets or exceeds egress requirements. When window is open, bottom of opening (top of hardware cover), shall not be more than 42" above the floor. Window shall be Low-E, Argon filled, insulated glass with not less than 3/8" airspace. Use units as manufactured by Insulate Industries, Alpine Windows, or equal. Except on mobile homes, installation shall include exterior molding. Unit shall include

screen and all hardware. Window to be installed plumb and true, and shimmed at corners. Operator to be Roto style. Remove identifying stickers and clean window after installation.
Location(s):

316. WINDOW, WOOD SASH, REPAIR
At the window(s) noted below, repair as noted the window(s)/sash(s) to "like new" operation. This includes repair or replacement of any damaged or missing parts, weatherstripping and glazing materials, clean and re-glue all loose joints using waterproof glue. Wood components shall be clear pine. Patch, sand all affected areas ready for paint. Units shall operate smoothly and be draft free when closed.
Window(s):

317. WOODSTOVE
At location noted below, install an airtight woodstove. Remove and properly dispose of the existing woodstove, floor and wall protection, interior flue pipe, and any other related materials (do not remove existing insulated chimney). Install floor and wall protection sized to the new stove. Properly secure to floor and wall. Use J-E-SAF-LINED or equal. Install woodstove observing all proper clearances. Install single wall flue pipe. Use matte black, single wall, Snap-Lock pipe in the proper diameter, for the stove. Single wall flue pipe shall be installed with the crimped end of each pipe pointing down (dripless). An adjustable "slip joint" shall be used to accomplish a tight installation between the single wall and insulated flue. All joints shall be secured with not less than (3) stainless steel, self tapping screws per connection. If elbows are used in the installation, runs will be as vertical as possible. No horizontal runs will be allowed. The woodstove shall be Blaze King, Earth Stove, or equal. Size of the stove shall be appropriate for the size of the structure. All manufacturer's paperwork will be given to the owner. Location:

318. WOODSTOVE GASKET
Remove and properly dispose of the woodstove door gasket. Install a properly sized door gasket on entire contact surface of the woodstove door/body. Use proper adhesive. Adjust door as needed, to achieve an airtight seal.

319. WOODSTOVE, FLOOR AND WALL PROTECTION
At location noted below, remove and properly dispose of the existing floor and wall protection, and any other related materials. Install floor and wall protection sized to the new stove. Properly secure to wall protection to wall using non-combustible spacers with screws set into framing members. Floor protection shall be held in place by the stove. Install pipe protectors on all single wall pipe that is within 18" of a combustible surface. Secure pipe protector to single wall pipe using stainless steel screws and ceramic spacers. Observe all required clearances. Use J-E-SAF-LINED or equal.
Location:

320. WOODSTOVE, MOVE FOR CLEARANCE
Move the woodstove away from the combustible surfaces as needed to satisfy the UL rated clearances to combustibles for the appliance. Install additional matte black single wall pipe, elbows, and transitions, as needed, to achieve clearances. Install additional wall, floor, and pipe protection materials as needed. Use J-E-SAF-LINED or equal.

321. WOODSTOVE, PIPE PROTECTION
At location noted below, install pipe protectors on all single wall pipe that is within 18" of a combustible surface. Secure protector to single wall pipe using stainless steel screws and ceramic spacers. Observe all required clearances. Use J-E-SAF-LINED or equal.
Location:

400 LOGISTICS **(FOR BID PURPOSES)**
It is assumed that a contractor's cost for particular tasks will be the same from region to region but realizing that the cost of mobilizing crew within your home region will incur costs different than cost to mobilize to another region. Cost should include travel, room and board and other costs associated with mobilizing crew and equipment to remote or distant locations. The intent of this bid line item is to provide a multiplier on a per house basis to allow for the distances these programs serve. Reference appendix A for number of units per region. It will be the intent of Alaska CDC to assign a minimum of 5 homes per region/community at a time and that those homes will be as close

in proximity to each other as possible given the client list at the time. The contractor/assessor may bid each task with applicable costs for each region if desired, or may use the logistics costs as the differentiation factor between regions. List all regions that the bid response refers to and differentiate the applicable "logistics costs" per region.

498 DELIVERY AND CLEAN-UP OF PROJECT SITE

Delivery: The contractor is responsible for delivery of materials to project site either from local vendors or agreed warehouse location. Materials held in a warehouse will be drawn down as needed for each project in the area served by that warehouse location. Ak CDC will attempt to provide warehouse space and materials as convenient to the work area as possible. Stocking of the Warehouse will be the contractors responsibility unless otherwise arranged.
Clean-up: All materials removed or demolished from project structures are the property of the building owner. Daily, the contractor is required to properly dispose of or store all materials removed or demolished from project structures. This includes storing materials safely on the project property. Protection of stored materials will be the owners responsibility.

499 GENERAL CARPENTRY

General carpentry is any tasks that may be encountered that are not otherwise described within a specification. these tasks will be charged at an hourly rate.
Typical tasks may include construction of handrails and stairs, repair of flooring, leveling structures, general demolition, etc.

500 INSULATION BLOWER LOGISTICS

Ak CDC will provide transportation of insulation blower to areas outside the Anchorage Bowl. The blower will be delivered to the identified warehouse location for each area. The contractor is responsible for pick up at the identified warehouse and delivery to the project site. Upon completion of the scheduled work, the contractor shall contact Ak CDC for pick-up and delivery back to Ak CDC by common carrier. Insulation blowing machine shall be kept clean and dry and maintained according to manufactures specifications while in the contractor's possession.

600 ASSESSMENT

(For bid purposes, "Assessment" does not include the cost of the testing but only the use of the test data to determine the Scope of Work for each project. The cost of the "Assessment" shall include overview of property, gathering of all test data, writing test reports, determining the Minimum Target Ventilation Rate based on the blower door test data, estimating the time and materials required for the Scope of Work using AKWARM (per structure) or WAP Priority List.)

Assessment contractors will be required to assess dwelling units to determine which energy conservation and occupant safety measures and materials are necessary and within budget; to complete an AKWARM review and report per structure; to measure and test building air tightness; to determine the Minimum Target Ventilation Rate; to measure the combustion safety and efficiency of heating systems and appliances; to test and measure house air pressures and heating duct performance, to perform resident conservation education and to distribute educational materials within the region. Assessor will accurately measure for all materials to perform the Program measures. Eligible client lists, dwelling assessment and test forms, and client education information will be provided by Alaska CDC. Assessment tools, transportation, lodging and meals are the responsibility of the assessment contractor. Test results, AKWARM reports (per structure), and completed assessments listing needed materials, will be delivered on a timely basis to Alaska Community Development Corporation.

601 PRE OR POST BLOWER DOOR TEST

1. A complete blower door test (one point CFM 50) shall be completed on every house unless a waiver is approved and documented prior to beginning any weatherization work on the house. Blower door test will be conducted in accordance with "Instructions for Alaska WAP Pressure Diagnostics Checklist". The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.

2. The initial home blower door test will be done at the time of the assessment and prior to starting any work. The results of the test shall be incorporated into the assessment and made a part of the weatherization plan for the dwelling.

3. The second test will be done after all weatherization work has been completed and the results shall be reported at the time the completed job is turned back to Alaska CDC for inspection. All test forms must be completely filled out.

4. All individuals performing blower door tests must have successfully completed an approved blower door training course.

5. State of Alaska/AHFC blower door test procedures must be followed.

(for bid purposes; appendix D)

602 PRE OR POST PRESSURE PAN DUCT LEAKAGE TEST

1. The initial duct system test will be done on all applicable dwellings at the time of the assessment and original blower door test. Test will be conducted in accordance with "Instructions for Alaska WAP Pressure Diagnostics Checklist". The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.

2. The final test will be conducted after all weatherization work and duct system sealing has been completed.

3. All individuals performing duct system testing must have successfully completed an approved blower door training course and have attended training on duct system testing and sealing.

4. State of Alaska/AHFC duct system testing procedures must be followed.

(for bid purposes; appendix D)

603 PRE OR POST ROOM TO ROOM PRESSURE TEST

1. The initial room to room pressure test will be done on all applicable dwellings at the time of the assessment and original blower door test. Test will be conducted in accordance with "Instructions for Alaska WAP Pressure Diagnostics Checklist". The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.

2. The final test will be conducted after all weatherization work and room to room pressure balancing has been completed.

3. State of Alaska/AHFC room to room pressure testing procedures must be followed. **(for bid purposes; appendix D)**

604 PRE OR POST MAXIMUM DEPRESSURIZATION TEST

1. The initial depressurization test will be done on all applicable dwellings at the time of the assessment and original blower door test. Test will be conducted in accordance with "Instructions for Alaska WAP Pressure Diagnostics Checklist". The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.

2. The final test will be conducted after all weatherization work has been completed.

3. State of Alaska/AHFC depressurization testing procedures must be followed.

(for bid purposes; appendix D)

605 PRE OR POST COMBUSTION SAFETY TEST, GAS OR OIL, ALL COMBUSTION APPLIANCES

1. Combustion safety and efficiency testing is required on every home unless a waiver is approved and documented prior to beginning any work on the dwelling.

2. The initial heating system efficiency combustion safety tests will be done at the time of the assessment. The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.

3. The final test will be conducted after all weatherization work and heating system improvements or repairs are completed.

4. All individuals performing combustion safety and combustion efficiency testing must be proficient in the use of the testing equipment.

5. State of Alaska/AHFC Combustion Safety Checklist testing procedures must be followed.

(for bid purposes; appendix D)

606 PRE OR POST COMBUSTION SAFETY INSPECTION, WOOD

Assessor shall inspect the wood burning appliance for safety compliance. Clearance to combustible surfaces, stove material integrity, proper appliance installation, interior single wall pipe, insulated flue including combustible penetrations and protection, flashing and termination. The initial wood combustion safety inspection will be done at the time of the assessment. The results of the test shall be reported on the Diagnostic Test Report and made a part of the weatherization plan for the dwelling.
(for bid purposes; appendix D)

ATTACHMENT II
SPECIFICATIONS FOR MATERIALS BID PACKAGE ARE AS FOLLOWS:

The successful bidder must be able to supply the bulk material order within a maximum time frame of thirty (30) days (including Saturdays, Sundays and Holidays) from date of purchase order receipt to delivery F.O.B Anchorage International Airport.

NOTE: Any product which is substituted as equivalent as or better than a product listed in these specifications must be identified by brand and model with supporting specifications.

Part #	Material:
1203/4	Beveled trim, baseboard: to be wood product in light/medium oak color.
1265	Shim Stock: To be cedar shims, 50 pieces per bundle.
1400 - 1532	Lumber: Lumber price to be per lineal foot unless specific length is noted, in which case a per piece price is requested.
1411-1414 1416-1417	Lumber, Clear: All 1"x clear material shall be kiln-dried (KD) clear, straight or mixed grain fir or hemlock. Minimum length is eight (8) feet and maximum length is twelve (12) feet unless otherwise specified.
1502 - 1532	Lumber S/B: All S/B lumber to be KD standard or better grade (S/B), hemlock/fir (HF) or spruce/pine/fir (SPF).
1672-1674	OSB siding: to be pre-primed with shiplap edge in 4' wide panels by length specified.
1680 - 1682	Siding cap: a fabricated galvanized Z-metal type 29-guage flashing to be used to cap the top exterior edge when foam board and siding are used to cover existing exterior surfaces. Minimum lip edge to provide secure coverage to be two (2) inches top and bottom. **NOTE:** See attached drawing for example.
1738	Lumber, AW Treated: Pressure treated All Weather wood suitable for wood foundations, ground contact or below grade applications, standard or better with a .60 treatment.
1740 - 1785	Lumber, PT: Pressure treated wood suitable for above grade applications, standard or better with a .40 treatment. Can be either Greenstone or Brownstone.
1852	Paneling to be all wood manufacture. **Plastic laminate not acceptable.** Paneling to have light colored surface unless specified otherwise.
1920	Door Sweep: Mechanically attached sweep with a 1/2" minimum nylon brush and minimum 1" PVC. To include attaching screws.

1922	Door Shoe: Arctic rubber type, mechanically attached door shoe, to cap the bottom of a door. To include attaching screws.
1925 - 1929	Door Weatherstrip: All weather-strip to be comprised of a full set needed to seal a 3-0 x 6-8 door. To include attaching screws as needed.
1941 1942	Threshold: Mechanically adjustable threshold (capable of being shortened on either one or both sides to fit existing odd-size door jambs).
3035 - 3037	Staples: All staples must be for Arrow T-50 type staplers. (Box equals 1,250 staples)
3106 - 3137	Nails: will not necessarily be ordered in box increments. They will be ordered by the pound.
3355 - 3367	Drywall Sscrews: to be galvanized, zinc coated or equivalent to provide protection against weather and rusting.
3645	Wet /Dry Tar: Tar material for roof patching, etc. which can be applied to either wet or dry surfaces,
3879	Acrylic latex caulk: must meet ASTM C834.
3880	Silicone caulk: equivalent to DOW 999 (clear) or 8644 (white, paintable).
3882	Polyurethane caulk to be equivalent to Silkaflex. Must meet ASTM C920.
3883	High temperature caulk: for use to seal stovepipe, etc. which will be in contact with high temperature surfaces to 2000^{o}.
3885	Flexible-Seal Caulk: A single component, paintable, elastomeric sealant that adheres to most substrates in wet or dry conditions and can be applied at temperatures as low as -20 degrees F.
	NOTE: All caulk to be supplied in plastic 10.3 ounce tubes.
3983 - 3984	Polyurethane filler foam and cleaner in container which screws to dispensing gun. Minimally expanding foam, Class A or Class 1 per ASTM E84. Filler form to be supplied in approximately two (2) liter / 24 oz can, cleaner in 12 oz can. **A new dispensing gun to be supplied with each two cases (24 cans) of foam.**
4590	Wood Stove: EPA-Certified air tight wood stove with outside combustion air kit and a heat circulating fan, similar to a Pacific Energy “Vista” model.
4600 - 4822	Stove Pipe MB: All 6", 7" and 8" chimney Metalbestos (M/B) or parts refer to "Selkirk Metalbestos" brand double-wall, insulated stove pipe and parts. **No substitutes will be acceptable.**
4972 - 4992	Stove Pipe S/W: All single wall stove pipe and parts to be 24 gauge minimum, black unless otherwise specified.

4997 Wood Stove Gasket Kit: 1/4" x 1/2" x 10’ ceramic yarn and high temperature glue, etc. needed to seal a wood stove door.

5105 Blowfill insulation: to be chopped fiberglass conforming to ASTM C764, similar to Knauf “Jet-Stream”. Coverage to be equivalent to 73.3 square feet per bag for R-30 insulation coverage.

5208 5209 Batt Hangers: Wire clips, typically 12 gauge steel, used between floor joists to support batt insulation.

5210 - 5229 5230 Fiberglass Insulation: All fiberglass insulation shall be certified to comply with the CCR, Title 24, Part 12, Chapters 12-13. Flexible (batts) insulation must conform to ASTM C665.

5307 Insulation Shield: 20 x 48 inch piece of aluminum flashing to keep blowfill insulation from contacting stove pipe. To be supplied in 20” x 50-foot rolls.

5350 - 5352 Polyicocyanurate Foamboard: Poly foil faced board covered with foil both sides in 4' x 8' sheets, having an R-7 per inch insulation value. (RMax, Thermax, etc). Must meet ASTM 1289 or FS (Federal Specifications) HH-I-1972/1 (1981).

5353 - 5354 Polystryene Foamboard: Medium density <u>extruded</u> polystyrene with an R-5 per inch insulation value, .6 perm rating maximum in 4' x 8' sheets. (DOW pink, Foamular 150, etc) Must meet ASTM C578-95.

NOTE: All foam board to be "packaged" with minimum of one piece of plywood on both the top and bottom of the bundles, preferably with plywood on all four sides. This packaging (plywood) may be part of the bulk material order for the village.

5565 - 5569 Quantity listed as specified width by 100-foot roll unless otherwise stated. All vapor barrier to be supplied in **<u>clear</u>** unless otherwise specified**.** Meet ASTM E1745. Permeance less than 1 when tested to ASTM E96.

6605 Roofing metal to be typical 26 gauge or better galvanized zincalune in three foot (3') width by length required.

6706 Ridge cap to include sufficient closure strip (1” x 1” foam) to seal edge joint.

6889 - 6891 Gable vents shall be louvered with a corrosion-resistant bug screen with 12" x 12"or 12" x 18" rough opening and a separate cover, unless otherwise specified.

NOTE: See attached drawing for cover specs.

6977 6978 Duct Mastic: A fibrous adhesive duct sealant tested to ASTM E-84 for flame spread and smoke density. It is manufactured by RCD Corp., 2310 Coolidge Ave., Orlando, FL 32804. (Phone 407 - 422-0089)

9510 Vapor Barrior Paint: Latex type vapor barrier paint similar in characteristics to Glidden "Insulaid". Must have perm rating of 1.0 or less. To be tinted to an "off-white" color

9511 - 9513 Exterior Paint: Exterior premium grade high percentage acrylic latex solid color stain with one coat sealing capability similar to ICI 2601-xxx.

9514 Interior Paint: Shall be premium quality interior acrylic latex semi-gloss tinted to an off-white color.

9645 Smoke detectors: to be photoelectric type with a five (5) year battery. Ion type detectors are not acceptable.

9720 Floor tile to be typical commercial grade glue-down VCT type flooring in 12" x 12" pieces. Self stick type not acceptable.

9740-55 Cabinets: Typical medium oak or similar color in a basic contractor grade with wood doors.

9756 Countertop: to be typical preformed laminate in a bone or off-white color.

ATTACHMENT II
SPECIFICATIONS FOR DOORS BID PACKAGE ARE AS FOLLOWS:

The successful bidder must be able to provide finished units (both solid and metal insulated pre-hung) within a maximum time frame of ten (10) working days (not including Saturdays, Sundays or holidays) from date purchase order received to F.O.B. (Note: The bulk material order will probably be issued three to four weeks before required delivery date, depending on funding approval.)

General Requirements:

1. All pre-hung units to be pre-assembled with mortised hinges and mechanically adjustable thresholds with thermal break, to be pre-drilled for passage knobs (and deadbolts as required) and to be pre-mortised for the appropriate backset(s) and **striker plate(s)**.

2. All pre-hung units to have door bottom and integral weather-stripping pre-installed to provide a continuous barrier to air infiltration (including "fuzzys" at the corners if needed).

3. All pre-hung door units to be supplied with Schlage A-10 series passage knob sets. Additionally, most units will be specified "w/deadbolt"--indicating a keyed Schlage B-160N series deadbolt to be supplied in addition to the passage knob set. Some units may be specified "w/lockset"--indicating a keyed Schlage A-53 series lockset to be supplied instead of the passage knob set. All multiple keyed locks for the same client number to be keyed alike. All passage knobs, locksets, deadbolts and corresponding hinges and striker plates to be provided in 626 brushed chrome finish. Backset to be mortise type, 2 ¾". Drive in backset not acceptable.

4. All exposed raw wood jamb and brick moldings must be sealed or primed. All wood door blanks **must** be weather sealed.

5. Pre-hung doors to be built to allow minimum 1/2" clearance, maximum 1" clearance both width and height between jamb (finished unit) and framing (rough opening).

6. On pre-hung doors the left hand (LH) or right hand (RH) swing has been determined to mean the side of the unit where the hinges are located when the door is viewed from the inside on standard in-swing doors or the side of the unit where the hinges are located when the door is viewed from the outside on out-swing doors. (If vendor methods vary, adjustments must be made to insure correct swing). A diagram will be provided with the purchase order.

7. Pre-hung doors will be specified with an overall rough opening measurement (RO 32" x 82" x 5 1/2"). Several doors may need to be downsized for height. Any resized metal door blank to have the knob set located at normal height above the threshold and top and/or bottom that is cut must be re-railed to maintain structural integrity. The third number in any door size sequence will indicate the jamb width.

8. A door listed "w/ win" indicates the door blank with a 12" x 12" insulated glass, minimum R-3.0, window installed at eye level height (approximately 60" to center of glass from floor).

9. All doors shall be packaged to maintain individual integrity to final village destination. Door knobs and deadbolts to be **label with client number** and packaged (boxed) separately to insure intact arrival at final

ATTACHMENT II
SPECIFICATIONS FOR WINDOWS BID PACKAGE ARE AS FOLLOWS:

Bid will not be accepted on materials which do not meet minimum specifications

The successful bidder must be able to provide finished units (both window and individual glazing) within a maximum time frame of twenty (20) working days (not including Saturdays, Sundays or Holidays) from date purchase order received to delivery F.O.B. Anchorage. (Note: The bulk material order will probably be issued at least four weeks before required delivery date, depending on funding approval.)

Bidder to determine glazing combination necessary to meet or exceed the minimum specified heat loss (R/U) values and air and water infiltration rates for individual glazed (glass only) and each window (glass and frame) type unit to be supplied, as applicable.

Bidder **must provide supporting documentation** for structural stability, heat loss and air/water infiltration. Thermal rating documentation to use the LBL Windows 4.1 program for both glass only and each type of window to be provided. Windows to meet or exceed Performance Grade **R40** standards for water leakage and structural stability in performance testing by an accredited facility in accordance with AAMA/NWWDA 101/I.S. 2-97 or ASTM D4726-00 standards. All windows must be certified by NFRC (National Fenestration Rating Council) to have a minimum overall total unit **R-value of 3.0 (U = .333).** All windows to have a maximum **air leakage (AL) of 0.15 cfm/sq.ft.** Highlight the applicable ratings in the documentation. Solar heat gain coefficient (SHGC) and visual transmittance (VT) information would be appreciated.

Sliders that are the same brand and style as the casement/picture windows (that meet the AAMA/NWWDA structural requirements) will be acceptable. Sliders must meet the heat loss and air/water infiltration requirements.

All units to have thermal-break type spacers between layers of glass.

Individual glazed units 3/4 inch or more thick must have a **minimum center of pane R-value of 3.2 (U = .3125).** Individual glazed units less than 3/4" thickness to be typical double pane Low "E" argon glazing.

All windows limited to fiberglass, wood or vinyl frame construction. No metal frames will be considered. All window units to be dry glazed with weather stripping and glazing gaskets to be made of EPDM (No TPR will be allowed.) All finished glazing in windows to be even with or inside attachment tab/surface (an exterior jamb extension may be incorporated).

Interior jamb extension to be provided in sufficient quantity for field cutting and installation by RurAL CAP. Interior jamb extension material to be finger-joint pine. **All exposed wood (including interior jamb extension) on windows to be weather sealed. All exposed joints on windows to be sealed to prevent water penetration**. Weather sealed means to be primed or otherwise sealed to deter moisture from penetrating the surface.

Insulated glass, replacement glass and storm windows to be built to the finished size specified. Windows to be built to allow 3/4" total clearance for height or width between frame (finished unit) and framing (rough opening). Maximum clearance to be 1" height or width total.

To insure positive closure all side-hinged (casement) units must be equipped with a mounted operator and top and bottom locking latches installed on the side opposite the hinges. All top hinged (awning) units must be equipped with a bottom center mounted operator and locking latches on each side. By-pass slider units to have positive locking mechanism at the top and bottom.

All windows labeled "Egress" shall provide minimum opening area as required by code for emergency exit (minimum net opening of 5.7 square feet with a minimum 20-inch wide opening and a minimum 24-inch height opening). If a given rough opening fails to provide this minimum requirement, the given width rough opening will be retained if possible and the height expanded as required.

Combined crating of windows or glass shall not exceed 150 pounds per crate.

Definitions:

Left-hand (LH) or Right-hand (RH): Indicates the swing for opener (casement) windows. The swing for the opener is determined as viewed from the exterior and indicates the hinged side of the window. In a combination fixed-opener, the swing will also determine the position of the opener unit, the hinges being to the side rather than center of the unit.

Storm Windows: All storm windows to be Lexan with either regular rigid or trailer flange metal edging.

Thermopane Window: Pre-made awning, opener, by-pass/slider or fixed unit (or any combination) ready for installation in a prescribed rough opening.

Replacement Glass: Individual glazed unit to fit an existing frame.

Door Specifications

(Continued)

destination. **Note to bulk shippers:** Multiple doors crated together may be shipped individually to the village from the hub location.

Definitions:

Blank: Indicates the door itself, not including the jamb, threshold, etc--either solid core, hollow core or metal insulated.

Hollow Core (HC): A wood door blank not having a solid core.

Metal Insulated (MI): A foam-filled, metal-skinned door blank with thermal break and minimum of R-7 conductive (not equivalent) insulated value.

Pre-Hung (P/H): A pre-assembled unit including door blank and jamb assembly with mortised hinges, pre-drilled for passage knob (and deadbolt and/or lockset where indicated) and pre-mortised for backset and striker plate. **No knock down jambs will be acceptable.**

Solid Core (SC): A wood door blank with a solid core of wood. **Laminated compressed particle board door blanks are not acceptable.**

Weather sealed: Primed or otherwise sealed to deter moisture from penetrating the surface.

Wood Door: All wood doors must be exterior grade mahogany or birch blanks, unless otherwise specified. All wood doors **MUST** be weather sealed.

Weatherization Operations Manual

Section 9. U.S. Department of Energy (DOE) Guidelines

Attachments:

2019 Alaska Field Guide
2019 DOE Health and Safety Plan
2019 Weatherization Assistance Program State Plan
SOA WAP Technical Support Document, Combustion Safety

DOE Variations from State Guidelines

A Subgrantee that administers U.S. Department of Energy (DOE) funds only may expend them on homes that comply with DOE guidelines. Subgrantees are required to reimburse DOE funds provided to pay the cost of weatherizing a dwelling unit if it is determined that the household unit occupying the dwelling was not eligible for weatherization assistance when it was served—except when allowed for ineligible multi-family rental units (See Maximum Investment Limits on pg. 9-6.).

Differences between DOE guidelines and the State guidelines in the Weatherization Operations Manual (WOM), the grant agreement, and the State Plan are provided below and in the attached 2019 Alaska Field Guide. The State Plan takes precedence. Subgrantees may find additional guidance in the most recent 10 CFR 440 and Federal Register. Other program guidance and notices from DOE are available at https://energy.gov/eere/wipo/weatherization-program-guidance or http://waptac.org/Rules-0024amp;-Guidance.aspx.

When applicable, headings and page numbers from a corresponding section of the WOM are provided for reference.

Materials Installation

Materials are to be installed by the Subgrantee or the Subgrantee's authorized representative. Only in rare circumstances shall a client be allowed to install materials without oversight from an assessor or inspector. In those circumstances, the client must certify in writing successful installation of the materials, and justification for allowing the client to install the materials must be in the client file.

Multi-Family Buildings

The Subgrantee must obtain permission from the AHFC Program Manager before assisting a multi-family with five or more units.

All units in 2- to 4-unit buildings must be assessed.

In buildings with five or more units, at least 10% of all units in the building, with no fewer than three units of each floor plan, and not fewer than five units total, must be visited for a complete energy audit during the pre-weatherization building assessment.

All units with a combustion appliance present must receive pre- and post- health and safety diagnostics testing.

At some point during each project, all units must have a documented inspection for possible health and safety concerns, including diagnostics if appropriate, followed by work orders for correction.

All individual units in which weatherization improvements were performed must be visited during final inspection, including all common areas in buildings where weatherization improvements were performed.

Health and safety diagnostics testing is required in all units and common areas of multi-family buildings

Common areas not within the building thermal envelope of the qualified residential building are not eligible for weatherization.

All units completed in an eligible multi-family building are reported, regardless of occupant income eligibility. Demographics must be reported from all units counted as completions (vacant units would have all zeros; over-income units should have demographics, sometimes collected from the landlord with a notation in the file that their units were not included in the eligibility of the building and consequently application documents are not present.

In row house buildings where there is a complete separation between units of building thermal barrier, air pressure boundary, and mechanical systems, each unit may be considered a single-family building and served as such. Consultation on a case-by-case basis with the AHFC Program Manager is required before committing DOE funds under this guideline.

Condominiums (pg. 1-33)

Condominiums shall be treated as multi-family buildings.

However, in buildings (e.g., row houses) where there is a complete separation between units of building thermal barrier, air pressure boundary, and mechanical systems, each unit may be served as a single-family building. Qualifying all units or a percentage of all units is not required. Consultation on a case-by-case basis with the AHFC Program Manager is required before committing DOE funds under this guideline.

The Subgrantee shall obtain written permission from the condo association as necessary to make improvements to the client's unit.

Privacy

Subgrantees shall treat all client data as confidential. They may share data in aggregate per DOE policy. [See 10 CFR 440.2 on pg. 9-11.]

Qualified Aliens Eligibility for Benefits

Subgrantees are directed to review guidance provided by Health and Human Services (HHS) under the Low Income Home Energy Assistance Program (LIHEAP).

Automatic Qualifiers for Income Eligibility (pg. 1-12)

A household unit of which a member receives cash assistance payments under Title IV (ATAP or TANF), Title XVI of the Social Security Act (SSI), or Low-Income Home Energy Assistance (LIHEAP) during the income review period automatically meets DOE income eligibility requirements.

Definition of Household Unit Income (pg. 1-11)

Subgrantees must include PFDs received by all members of the household unit (excluding live-in aides) in income calculations.

Income Exclusions (pg. 1-13 to 1-14)

Military Family Allotments (#17) are not excluded by DOE.

Calculating Income (pg. 1-14)

Subgrantees must qualify households based on

- the AQs listed in this Section (pg. 9-4), or
- a review of gross income received by the household, except for certain types of net income (See pg. 1-13 #7, #8, and #14).

Required Income Documentation (pg. 1-15)

If income eligibility is determined by an outside agency or program (e.g., LIHEAP, TANF/ATAP, or SSI), then copies of the recipient's eligibility determination for that assistance or other form of verification from the other agency/program is acceptable proof for the client file.

After all avenues of documenting income eligibility are exhausted, self-certification is allowable. Evidence of various attempts to prove eligibility must be in the client file, including a notarized statement signed by the potential applicant indicating that the applicant has no other proof of income.

No Income (pg. 1-20)

This is not part of DOE guidelines. After all other avenues of documenting income eligibility are exhausted, self-certification is allowable. Evidence of the various attempts at proving eligibility must be contained in the client file, including a notarized statement signed by the potential applicant indicating having no income.

Certifying Income-Eligible HUD-Assisted MFs

HUD no longer provides lists of income-eligible properties to DOE. A procedure is available for owners/property managers to certify compliance with DOE's income guidelines. Subgrantees may refer to WPN 17-4 Multifamily Housing – Procedure for Certifying Income-Eligible HUD assisted buildings for guidance.

Lists of income-eligible LIHTC and USDA properties are no longer provided. Follow standard procedures for verifying tenant household income for LIHTC and USDA properties.

Commercial Use (pg. 1-33)

The third bullet is not part of DOE guidelines.

Buildings comprised of separate commercial and residential spaces might qualify for assistance, if the residential space meets the 50% or 66% eligibility requirements for the structure. The landlord would have to pay the full cost of weatherizing the commercial area or a percentage of the total cost of weatherization based on the square feet of occupancy. Consult with the AHFC Program Manager on a case-by-case basis.

Assisted Living Homes (pg. 1-34)

Under limited circumstances, Assisted Living Homes may qualify to be served as Shelters. Contact the AHFC Program Manager for further guidance.

Shelters (pg. 1-35)

As for any multifamily structure, DOE guidance governing eligibility and benefits must apply. Because they are not owner-occupied, owner permission is required. The DOE average cost per unit applies. Contact the AHFC Program Manager for guidance before investing DOE funds in a shelter.

Other Allowable Uses of Funds (pg. 1-39)

A previously weatherized dwelling unit may be reweatherized under the following conditions:

- If such dwelling unit has been damaged by fire, flood, or act of God and repair of the damage to the Weatherization materials is not paid for by insurance; or
- It has not been served with Weatherization funds after September 30, 1994.
- Furthermore, the Subgrantee has not exceeded the number of re-WXs allowed in its grant agreement. In addition, the percentage of allowed re-WXs will be published in the State Plan for the current program year. No Subgrantee shall exceed the amount allowed without prior written approval from the AHFC Program Manager.

Fuel Switch (pg. 1-39)

DOE funds shall not be used to switch non-renewable fuels. The DOE Weatherization Assistance Program 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 only. **Subgrantees shall obtain written approval from the AHFC Program Manager prior to expending DOE funds for fuel switching.**

Approved renewable energy systems are listed in Section 8. *10 CFR 440 Appendix A—Standards for Weatherization Materials*. Consideration must be given to whether:

- Sufficient capacity of the fuel source is proven;
- The measure will meet or exceed an SIR of 1; and
- Costs for the renewable fuel are expected to be stable for the foreseeable future.

Prior written approval from the AHFC Program Manager must be obtained before expending DOE funds on renewable energy systems.

Maximum Investment Limits (pg. 1-44)

DOE maximum funding limits apply to all dwelling units served. The limits for average cost per unit, average cost per unit for renewables, and heath/safety are published by AHFC in the annual State Plan. The average cost per unit for renewables is included in the average cost per unit; it is not in addition to the average cost per unit.
A rental dwelling unit may qualify to receive DOE funds only under the following conditions:

- the household meets DOE income and occupancy guidelines,
- the landlord/owner certifies in writing that a vacant unit will be occupied by a household that will become income-eligible within 180 days under a federal, State, or government program for rehabilitating the building or making similar improvements to the building, or
- the ineligible rental unit receives common WX building measures funded by DOE and meets all other rental policies in Section 1, *Rental Policies* (pp. 1-25 to 1-32).

Rental dwelling units that qualify for and receive DOE-funded improvements must be counted as DOE units.

Regardless of the funding source, only measures on a list of measures with a cumulative SIR of 1 or greater may be paid for in any portion with DOE funds.

WX Funding Limitations on Rentals [Owner Contributions] (pg. 1-26)

Subgrantees are not allowed to require owner contributions for single-family units.

Landlords may contribute to the weatherization of their buildings.

Owner contributions that may be required, such as described on pp. 1-26 to 1-29, may be separate from monies used to buy down measures.

Buy-Downs

At the Subgrantee's discretion, owners also may buy down measures – such as furnace or boiler replacements or new fenestration – that do save energy but don't achieve an SIR of 1 or greater as a stand-alone measure.

It is DOE's aim to bring as many non-federal resources into the program to buy down measures that do not meet the individual SIR requirements in the initial audit run.

Note: All associated health-and-safety costs incurred on a dwelling unit generally are treated outside the SIR when determining cost-effectiveness. However, all energy-related incidental repair measures associated with weatherizing dwelling units are a part of the SIR when determining cost-effectiveness.

Subgrantees shall use this SIR calculation allowance only when the cost-effectiveness for the entire investment in the property can still be substantiated. In other words, a measure can be bought down only when the overall SIR of the DOE package of measures, including the full cost of the measure that will be bought down, is 1.0 or greater.

Example: In order for a measure to qualify for the buy-down, the DOE package of measures, including the full cost (the pre-buy-down cost) of the measure, which is to be bought down, must have an SIR of 1.0 or greater.

For example, in the first case below the replacement windows would be eligible for a buy-down; the replacement windows with a full-cost measure SIR = 0.8 could be bought down so the after-buy-down measure cost would have an SIR of at least 1.0 (and the post-buy-down DOE package SIR would increase).

In the second case, the replacement windows would not be eligible for a buy-down, because the pre-buy-down package SIR is below 1.0.

Energy Saving Economics Case 1 – Buy-down Allowed in WAP		
Measure	**Measure SIR**	**Cumulative SIR**
Infiltration Reduction	1.3	1.3
Lighting Retrofits	7.4	1.7
Ceiling Insulation	2.4	1.9
Replacement Windows (pre-buy-down)	0.8	1.1 (≥ 1.0)

Energy Saving Economics Case 2 – Buy-down Not Allowed in WAP		
Measure	**Measure SIR**	**Cumulative SIR**
Infiltration Reduction	1.3	1.3
Lighting Retrofits	7.4	1.7
Ceiling Insulation	2.4	1.9
Replacement Windows (pre-buy-down)	0.6	0.9 **(not ≥ 1.0)**

Do not "leapfrog" measures that are already cost-effective in order to accommodate a measure that is included in the DOE package of measures as a result of this guidance. All measures that were cost-effective after the initial energy audit is conducted would remain a part of the list of measures to be completed on the building. Measures that do not attain the SIR of 1.0 only can be considered for buy-down if all the cost-effective measures in the initial audit also are installed.

The following steps are recommended to determine what other funding is necessary to leverage for a measure that would otherwise not meet the SIR requirements:

1. Using the full, non-leveraged cost of all measures, conduct an initial energy audit of the building to determine the package of measures that has a combined SIR of 1.0 or greater, including measures that are not cost-effective without leveraged resources.

2. Determine whether sufficient funds from other resources are available to bring any measures with individual SIRs below 1.0 in that package up to at least an SIR of 1.0.

3. Apply those other funds to that measure and include it in the package of measures.

4. Document the inclusion of the leveraged measure into the weatherization statement of work with the original energy audit and either:

    a. A summary of all costs associated with the weatherization of the building, including any or all resources to be used, or

    b. A revised audit in which the leveraged price of the additional measure is used as the measure cost. This documentation will become part of the file along with the inputs and results of both energy audits.

State funds may be used to buy down measures for any eligible dwelling type (owner-occupied or rental).

Benefits Must Accrue to Tenants (pg. 1-30)

Written justification that benefits of weatherization accrue primarily to the tenant is required in the client file. The *Accrual of Benefits to Tenant* form (Section 6, #1) is provided as an option to use for this purpose.

Prioritizing Applications (pg. 1-47)

Priority shall be given to a household unit with an elderly person (60 or older), a person with disabilities, or a child under six years old before other household units. Emergency circumstances may justify moving a household up the wait list.

Financial Reporting (pg. 3-5)

Reporting of SHPO data for units assisted with DOE funds is due by September 15. This data shall be provided through WX Online unless otherwise directed by AHFC.

Budget Control (pg. 3-8)

The average expense per dwelling unit for program and material costs using DOE funds cannot exceed the amount established each year by DOE and published each year by AHFC in the State Plan.

Required Approval for Specific Costs (pg. 3-8)

A T&TA plan must be submitted prior to grant award for DOE funds.

Program Support (pg. 3-11)

The DOE maximum funding limit for repairs is $500 per dwelling unit. The repairs must be necessary to make the installation of Weatherization materials effective.

Pollution Occurrence Insurance is required for DOE-funded projects and is an allowable expense.

All DOE-funded projects must have at least one measure that meets an SIR of one or above. There must be an accounting in each file that shows what measures/materials were charged to DOE.

Only one unit of the primary heating system may be replaced with DOE funds. In some homes, two heaters might be used to comprise the primary heating system (equally used, heating different spaces, etc.). In such cases, Subgrantees shall charge only one replacement unit to DOE funds, and the other to state funds. Having to replace more than one unit in any home should be the exception not the rule.

When in doubt about a material or measure, discuss it with the AHFC Program Manager before charging it to DOE funds. Written justification for replacing more than one unit (regardless of funding source) must be in all project files.

Unallowable Costs (pg. 3-13)

Immunization of Weatherization workers is not an allowable expense.

Homes served with State funds only cannot be reported as DOE homes.

Section 7. Health and Safety Forms

Asbestos: For all homes, provide the client with *Asbestos in your Home* (Form #3) and have client certification of receipt (Form #4) on file.

Mold: For all homes, provide the client with *A Brief Guide to Mold, Moisture, and Your* Home (Form #1) and have client certification of receipt (Form #9 or other signed certification of receipt) on file.

Pollution: For all homes, complete the *Pollution Source Survey* (Form #10)

Radon: For all homes, provide the client with *Basic Radon Facts* (Form #5) and have client certification of receipt (Form #6) on file.

Allowable Health and Safety Items

- Ground vapor barrier to reduce pollutants, radon, and moisture from the ground into the living area
- Sump pump and/or coverings
- Crawl space ventilation strategies
- Ventilation—whole house and spot, range hood—ASHRAE compliant
- Heating system clean-and-tune and repair or replacement
- Heating system stack and pipe repair and replacement, high temp caulk
- Hot water heater replacement for health-and-safety reasons, including stack and venting
- Lead RRP compliance costs/Asbestos/Mold/Pollutants
- Carbon Monoxide and smoke alarms
- Dryer ducting to outside
- Client Education for Health and Safety
- Worker protection and OSHA compliance

10 CFR 440

Note: Appendix A to Part 440—*Standards for Weatherization Materials* is included in Section 8. *Materials Standards* of this manual.

Title 10: Energy

PART 440—WEATHERIZATION ASSISTANCE FOR LOW-INCOME PERSONS

Authority: 42 U.S.C. 6861 *et seq.;* 42 U.S.C. 7101 *et seq.*

Source: 49 FR 3629, Jan. 27, 1984, unless otherwise noted.

§ 440.1 Purpose and scope.

This part implements a weatherization assistance program to increase the energy efficiency of dwellings owned or occupied by low-income persons or to provide such persons renewable energy systems or technologies, reduce their total residential expenditures, and improve their health and safety, especially low-income persons who are particularly vulnerable such as the elderly, persons with disabilities, families with children, high residential energy users, and households with high energy burden.

[65 FR 77217, Dec. 8, 2000, as amended at 71 FR 35778, June 22, 2006]

§ 440.2 Administration of grants.

Grant awards under this part shall comply with applicable law including, without limitation, the requirements of:

(a) Executive Order 12372 entitled "Intergovernmental Review of Federal Programs", 48 FR 3130, and the DOE Regulation implementing this Executive Order entitled "Intergovernmental Review of Department of Energy Programs and Activities" (10 CFR part 1005);

(b) Office of Management and Budget Circular A-97, entitled "Rules and Regulations Permitting Federal Agencies to Provide Specialized or Technical Services to State and Local Units of Government under Title III of the Inter-Governmental Coordination Act of 1968;"

(c) Unless in conflict with provisions of this part, the DOE Financial Assistance Rule (10 CFR part 600); and

(d) Such other procedures applicable to this part as DOE may from time to time prescribe for the administration of financial assistance.

(e)(1) States, Tribes and their subawardees, including, but not limited to subrecipients, subgrantees, contractors and subcontractors that participate in the program established under this Part are required to treat all requests for information concerning applicants and recipients of WAP funds in a manner consistent with the Federal Government's treatment of information requested under the Freedom of Information Act (FOIA), 5 U.S.C. 552, including the privacy protections contained in Exemption (b)(6) of the FOIA, 5 U.S.C. 552(b)(6). Under 5 U.S.C. 552(b)(6), information relating to an individual's eligibility application or the individual's participation in the program, such as name, address, or income information, are generally exempt from disclosure.

(2) A balancing test must be used in applying Exemption (b)(6) in order to determine:

(i) Whether a significant privacy interest would be invaded;

(ii) Whether the release of the information would further the public interest by shedding light on the operations or activities of the Government; and

(iii) Whether in balancing the privacy interests against the public interest, disclosure would constitute a clearly unwarranted invasion of privacy.

(3) A request for personal information including but not limited to the names, addresses, or income information of WAP applicants or recipients would require the State or other service provider to balance a clearly defined public interest in obtaining this information against the individuals' legitimate expectation of privacy.

(4) Given a legitimate, articulated public interest in the disclosure, States and other service providers may release information regarding recipients in the aggregate that does not identify specific individuals. However, a State or service provider must apply an FOIA Exemption (b)(6) balancing test to any request for information that can not be satisfied by such less-intrusive methods.

[49 FR 3629, Jan. 27, 1984, as amended at 75 FR 11422, Mar. 11, 2010; 77 FR 11737, Feb. 28, 2012]

§ 440.3 Definitions.

As used in this part:

Act means the Energy Conservation in Existing Buildings Act of 1976, as amended, 42 U.S.C. 6851 *et seq.*

Assistant Secretary means the Assistant Secretary for Conservation and Renewable Energy or official to whom the Assistant Secretary's functions may be redelegated by the Secretary.

Base Allocation means the fixed amount of funds for each State as set forth in §440.10(b)(1).

Base temperature means the temperature used to compute heating and cooling degree days. The average daily outdoor temperature is subtracted from the base temperature to compute heating degree days, and the base temperature is subtracted from the average daily outdoor temperature to compute cooling degree days.

Biomass means any organic matter that is available on a renewable or recurring basis, including agricultural crops and trees, wood and wood wastes and residues, plants (including aquatic plants), grasses, residues, fibers, and animal wastes, municipal wastes, and other waste materials.

CAA means a Community Action Agency.

Capital-Intensive furnace or cooling efficiency modifications means those major heating and cooling modifications which require a substantial amount of funds, including replacement and major repairs, but excluding such items as tune-ups, minor repairs, and filters.

Children means dependents not exceeding 19 years or a lesser age set forth in the State plan.

Community Action Agency means a private corporation or public agency established pursuant to the Economic Opportunity Act of 1964, Pub. L. 88–452, which is authorized to administer funds received from Federal, State, local, or private funding entities to assess, design, operate, finance, and oversee antipoverty programs.

Cooling Degree Days means a population-weighted annual average of the climatological cooling degree days for each weather station within a State, as determined by DOE.

Deputy Assistant Secretary means the Deputy Assistant Secretary for Technical and Financial Assistance or any official to whom the Deputy Assistant Secretary's functions may be redelegated by the Assistant Secretary.

DOE means the Department of Energy.

Dwelling Unit means a house, including a stationary mobile home, an apartment, a group of rooms, or a single room occupied as separate living quarters.

Elderly Person means a person who is 60 years of age or older.

Electric base-load measures means measures which address the energy efficiency and energy usage of lighting and appliances.

Family Unit means all persons living together in a dwelling unit.

Formula Allocation means the amount of funds for each State as calculated based on the formula in §440.10(b)(3).

Formula Share means the percentage of the total formula allocation provided to each State as calculated in §440.10 (b)(3).

Governor means the chief executive officer of a State, including the Mayor of the District of Columbia.

Grantee means the State or other entity named in the Notification of Grant Award as the recipient.

Heating Degree Days means a population-weighted seasonal average of the climatological heating degree days for each weather station within a State, as determined by DOE.

High residential energy user means a low-income household whose residential energy expenditures exceed the median level of residential expenditures for all low-income households in the State.

Household with a high energy burden means a low-income household whose residential energy burden (residential expenditures divided by the annual income of that household) exceeds the median level of energy burden for all low-income households in the State.

Incidental Repairs means those repairs necessary for the effective performance or preservation of weatherization materials. Such repairs include, but are not limited to, framing or repairing windows and doors which could not otherwise be caulked or weather-stripped and providing protective materials, such as paint, used to seal materials installed under this program.

Indian Tribe means any tribe, band, nation, or other organized group or community of Native Americans, including any Alaskan native village, or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, Pub. L. 92–203, 85 Stat. 688, which (1) is recognized as eligible for the special programs and services provided by the United States to Native Americans because of their status as Native Americans, or (2) is located on, or in proximity to, a Federal or State reservation or rancheria.

Local Applicant means a CAA or other public or non profit entity unit of general purpose local government.

Low income means that income in relation to family size which:

(1) At or below 200 percent of the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget, except that the Secretary may establish a higher level if the Secretary, after consulting with the Secretary of Agriculture and the Secretary of Health and Human Services, determines that such a higher level is necessary to carry out the purposes of this part and is consistent with the eligibility criteria established for the weatherization program under Section 222(a)(12) of the Economic Opportunity Act of 1964;

(2) Is the basis on which cash assistance payments have been paid during the preceding twelve month-period under Titles IV and XVI of the Social Security Act or applicable State or local law; or

(3) If a State elects, is the basis for eligibility for assistance under the Low Income Home Energy Assistance Act of 1981, provided that such basis is at least 200 percent of the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget.

Native American means a person who is a member of an Indian tribe.

Non-Federal leveraged resources means those benefits identified by State or local agencies to supplement the Federal grant activities and that are made available to or used in conjunction with the DOE Weatherization Assistance Program for the purposes of the Act for use in eligible low-income dwelling units.

Persons with Disabilities means any individual (1) who is a handicapped individual as defined in section 7(6) of the Rehabilitation Act of 1973, (2) who is under a disability as defined in section

1614(a)(3)(A) or 223(d)(1) of the Social Security Act or in section 102(7) of the Developmental Disabilities Services and Facilities Construction Act, or (3) who is receiving benefits under chapter 11 or 15 of title 38, U.S.C.

Program Allocation means the base allocation plus formula allocation for each State.

Relevant Reporting Period means the Federal fiscal year beginning on October 1 and running through September 30 of the following calendar year.

Renewable energy system means a system which when installed in connection with a dwelling—

(1) Transmits or uses solar energy, energy derived from geothermal deposits, energy derived from biomass (or any other form of renewable energy which DOE subsequently specifies through an amendment of this part) for the purpose of heating or cooling such dwelling or providing hot water or electricity for use within such dwelling; or wind energy for nonbusiness residential purposes; and

(2) Which meets the performance and quality standards prescribed in §440.21 (c) of this part.
Rental Dwelling Unit means a dwelling unit occupied by a person who pays rent for the use of the dwelling unit.

Residential Energy Expenditures means the average annual cost of purchased residential energy, including the cost of renewable energy resources.

Secretary means the Secretary of the Department of Energy.

Separate Living Quarters means living quarters in which the occupants do not live and eat with any other persons in the structure and which have either direct access from the outside of the building or through a common hall or complete kitchen facilities for the exclusive use of the occupants. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements, and includes shelters for homeless persons.

Shelter means 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.

Single-Family Dwelling Unit means a structure containing no more than one dwelling unit.

Skirting means material used to border the bottom of a dwelling unit to prevent infiltration.

State means each of the States, the District of Columbia, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Commonwealth of Puerto Rico, and the Virgin Islands.

Subgrantee means an entity managing a weatherization project which receives a grant of funds awarded under this part from a grantee.

Support Office Director means the Director of the DOE Field Support Office with the responsibility for *grant administration or any official to whom that function may be redelegated by the Assistant Secretary.*

Total Program Allocations means the annual appropriation less funds reserved for training and technical assistance.

Tribal Organization means the recognized governing body of any Indian tribe or any legally established organization of Native Americans which is controlled, sanctioned, or chartered by such governing body.

Unit of General Purpose Local Government means any city, county, town, parish, village, or other general purpose political subdivision of a State.

Vestibule means an enclosure built around a primary entry to a dwelling unit.

Weatherization Materials mean:

(1) Caulking and weatherstripping of doors and windows;

(2) Furnace efficiency modifications including, but not limited to—

(i) Replacement burners, furnaces, or boilers or any combination thereof;

(ii) Devices for minimizing energy loss through heating system, chimney, or venting devices; and

(iii) Electrical or mechanical furnace ignition systems which replace standing gas pilot lights;

(3) Cooling efficiency modifications including, but not limited to—

(i) Replacement air conditioners;

(ii) Ventilation equipment;

(iii) Screening and window films; and

(iv) Shading devices.

Weatherization Project means a project conducted in a single geographical area which undertakes to weatherize dwelling units that are energy inefficient.

[49 FR 3629, Jan. 27, 1984, as amended at 50 FR 712, Jan. 4, 1985; 50 FR 49917, Dec. 5, 1985; 55 FR 41325, Oct. 10, 1990; 58 FR 12525, Mar. 4, 1993; 60 FR 29480, June 5, 1995; 65 FR 77217, Dec. 8, 2000; 71 FR 35778, June 22, 2006; 74 FR 12539, Mar. 25, 2009]

§ 440.10 Allocation of funds.

(a) DOE shall allocate financial assistance for each State from sums appropriated for any fiscal year, upon annual application.

(b) Based on total program allocations at or above the amount of $209,724,761, DOE shall determine the program allocation for each State from available funds as follows:

(1) Allocate to each State a "Base Allocation" as listed in Table 1.

Base Allocation Table

State	Base allocation
Alabama	$1,636,000
Alaska	1,425,000
Arizona	760,000
Arkansas	1,417,000
California	4,404,000
Colorado	4,574,000
Connecticut	1,887,000
Delaware	409,000
District of Columbia	487,000
Florida	761,000
Georgia	1,844,000
Hawaii	120,000
Idaho	1,618,000
Illinois	10,717,000
Indiana	5,156,000
Iowa	4,032,000
Kansas	1,925,000
Kentucky	3,615,000
Louisiana	912,000
Maine	2,493,000
Maryland	1,963,000
Massachusetts	5,111,000

Michigan	12,346,000
Minnesota	8,342,000
Mississippi	1,094,000
Missouri	4,615,000
Montana	2,123,000
Nebraska	2,013,000
Nevada	586,000
New Hampshire	1,193,000
New Jersey	3,775,000
New Mexico	1,519,000
New York	15,302,000
North Carolina	2,853,000
North Dakota	2,105,000
Ohio	10,665,000
Oklahoma	1,846,000
Oregon	2,320,000
Pennsylvania	11,457,000
Rhode Island	878,000
South Carolina	1,130,000
South Dakota	1,561,000
Tennessee	3,218,000
Texas	2,999,000
Utah	1,692,000
Vermont	1,014,000
Virginia	2,970,000
Washington	3,775,000
West Virginia	2,573,000
Wisconsin	7,061,000
Wyoming	967,000
American Samoa	120,000
Guam	120,000
Puerto Rico	120,000
Northern Mariana Islands	120,000
Virgin Islands	120,000
Total	171,858,000

(2) Subtract 171,258,000 from total program allocations.

(3) Calculate each State's formula share as follows:

(i) Divide the number of "Low Income" households in each State by the number of "Low Income" households in the United States and multiply by 100.

(ii) Divide the number of "Heating Degree Days" for each State by the median "Heating Degree Days" for all States.

(iii) Divide the number of "Cooling Degree Days" for each State by the median "Cooling Degree Days" for all States, then multiply by 0.1.

(iv) Calculate the sum of the two numbers from paragraph (b)(3)(ii) and (iii) of this section.

(v) Divide the residential energy expenditures for each State by the number of households in the State.

(vi) Divide the sum of the residential energy expenditures for the States in each Census division by the sum of the households for the States in that division.

(vii) Divide the quotient from paragraph (b)(3)(v) of this section by the quotient from paragraph (b)(3)(vi) of this section.

(viii) Multiply the quotient from paragraph (b)(3)(vii) of this section for each State by the residential energy expenditures per low-income household for its respective Census division.

(ix) Divide the product from paragraph (b)(3)(viii) of this section for each State by the median of the products of all States.

(x) Multiply the results for paragraph (b)(3)(i), (iv) and (ix) of this section for each State.

(xi) Divide the product in paragraph (b)(3)(x) of this section for each State by the sum of the products in paragraph (b)(3)(x) of this section for all States.

(4) Calculate each State's program allocation as follows:

(i) Multiply the remaining funds calculated in paragraph (b)(2) of this section by the formula share calculated in paragraph (b)(3)(xi) of this section,

(ii) Add the base allocation from paragraph (b)(1) of this section to the product of paragraph (b)(4)(i) of this section.

(c) Should total program allocations for any fiscal year fall below $209,724,761, then each State's program allocation shall be reduced from its allocated amount under a total program allocation of $209,724,761 by the same percentage as total program allocations for the fiscal year fall below $209,724,761.

(d) All data sources used in the development of the formula are publicly available. The relevant data is available from the Bureau of the Census, the Department of Energy's Energy Information Administration and the National Oceanic and Atmospheric Administration.

(e) Should updates to the data used in the formula become available in any fiscal year, these changes would be implemented in the formula in the following program year.

(f) DOE may reduce the program allocation for a State by the amount DOE determines cannot be reasonably expended by a grantee to weatherize dwelling units during the budget period for which financial assistance is to be awarded. In reaching this determination, DOE will consider the amount of unexpended financial assistance currently available to a grantee under this part and the number of dwelling units which remains to be weatherized with the unexpended financial assistance.

(g) DOE may increase the program allocation of a State by the amount DOE determines the grantee can expend to weatherize additional dwelling units during the budget period for which financial assistance is to be awarded.

(h) The Support Office Director shall notify each State of the program allocation for which that State is eligible to apply.

[60 FR 29480, June 5, 1995, as amended at 74 FR 12539, Mar. 25, 2009]

§ 440.11 Native Americans.

(a) Notwithstanding any other provision of this part, the Support Office Director may determine, after taking into account the amount of funds made available to a State to carry out the purposes of this part, that:

(1) The low-income members of an Indian tribe are not receiving benefits under this part equivalent to the assistance provided to other low-income persons in the State under this part and

(2) The low-income members of such tribe would be better served by means of a grant made directly to provide such assistance.

(b) In any State for which the Support Office Director shall have made the determination referred to in paragraph (a) of this section, the Support Office Director shall reserve from the sums that would otherwise be allocated to the State under this part not less than 100 percent,

or more than 150 percent, of an amount which bears the same ratio to the State's allocation for the fiscal year involved as the population of all low-income Native Americans for whom a determination under paragraph (a) of this section has been made bears to the population of all low-income persons in the State.

(c) The Support Office Director shall make the determination prescribed in paragraph (a) of this section in the event a State:

(1) Does not apply within the sixty-day time period prescribed in §440.12(a);

(2) Recommends that direct grants be made for low-income members of an Indian tribe as provided in §440.12(b)(5);

(3) Files an application which DOE determines, in accordance with the procedures in §440.30, not to make adequate provision for the low-income members of an Indian tribe residing in the State; or

(4) Has received grant funds and DOE determines, in accordance with the procedures in §440.30, that the State has failed to implement the procedures required by §440.16(6).

(d) Any sums reserved by the Support Office Director pursuant to paragraph (b) of this section shall be granted to the tribal organization serving the individuals for whom the determination has been made, or where there is no tribal organization, to such other entity as the Support Office Director determines is able to provide adequate weatherization assistance pursuant to this part. Where the Support Office Director intends to make a grant to an organization to perform services benefiting more than one Indian tribe, the approval of each Indian tribe shall be a prerequisite for the issuance of a notice of grant award.

(e) Within 30 days after the Support Office Director has reserved funds pursuant to paragraph (b) of this section, the Support Office Director shall give written notice to the tribal organization or other qualified entity of the amount of funds reserved and its eligibility to apply therefor.

(f) Such tribal organization or other qualified entity shall thereafter be treated as a unit of general purpose local government eligible to apply for funds hereunder, pursuant to the provisions of §440.13.

[49 FR 3629, Jan. 27, 1984, as amended at 58 FR 12529, Mar. 4, 1993]

§ 440.12 State application.

(a) To be eligible for financial assistance under this part, a State shall submit an application to DOE in conformity with the requirements of this part not later than 60 days after the date of notice to apply is received from the Support Office Director. After receipt of an application for financial assistance or for approval of an amendment to a State plan, the Support Office Director may request the State to submit within a reasonable period of time any revisions necessary to make the application complete or to bring the application into compliance with the requirements of this part. The Support Office Director shall attempt to resolve any dispute over the application informally and to seek voluntary compliance. If a State fails to submit timely appropriate revisions to complete the application, the Support Office Director may reject the application as incomplete in a written decision, including a statement of reasons, which shall be subject to administrative review under §440.30 of this part.

(b) Each application shall include:

(1) The name and address of the State agency or office responsible for administering the program;

(2) A copy of the final State plan prepared after notice and a public hearing in accordance with §440.14(a), except that an application by a local applicant need not include a copy of the final State plan;

(3) The budget for total funds applied for under the Act, which shall include a justification and explanation of any amounts requested for expenditure pursuant to §440.18(d) for State administration;

(4) The total number of dwelling units proposed to be weatherized with grant funds during the budget period for which assistance is to be awarded—

(i) With financial assistance previously obligated under this part, and

(ii) With the program allocation to the State;

(5) A recommendation that a tribal organization be treated as a local applicant eligible to submit an application pursuant to §440.13(b), if such a recommendation is to be made;

(6) A monitoring plan which shall indicate the method used by the State to insure the quality of work and adequate financial management control at the subgrantee level;

(7) A training and technical assistance plan which shall indicate how funds for training and technical assistance will be used; and

(8) Any further information which the Secretary finds necessary to determine whether an application meets the requirements of this part.

(c) On or before 60 days from the date that a timely filed application is complete, the Support Office Director shall decide whether DOE shall approve the application. The Support Office Director may—

(1) Approve the application in whole or in part to the extent that the application conforms to the requirements of this part;

(2) Approve the application in whole or in part subject to special conditions designed to ensure compliance with the requirements of this part; or

(3) Disapprove the application if it does not conform to the requirements of this part.

(Approved by the Office of Management and Budget under control number 1904–0047)

[49 FR 3629, Jan. 27, 1984, as amended at 50 FR 712, Jan. 4, 1985; 55 FR 41325, Oct. 10, 1990; 58 FR 12529, Mar. 4, 1993; 60 FR 29481, June 5, 1995]

§ 440.13 Local applications.

(a) The Support Office Director shall give written notice to all local applicants throughout a State of their eligibility to apply for financial assistance under this part in the event:

(1) A State, within which a local applicant is situated, fails to submit an application within 60 days after notice in accordance with §440.12(a) or

(2) The Support Office Director finally disapproves the application of a State, and, under §440.30, either no appeal is filed or the Support Office Director's decision is affirmed.

(b) To be eligible for financial assistance, a local applicant shall submit an application pursuant to §440.12(b) to the Support Office Director within 30 days after receiving the notice referred to in paragraph (a) of this section.

(c) In the event one or more local applicants submits an application for financial assistance to carry out projects in the same geographical area, the Support Office Director shall hold a public hearing with the same procedures that apply under section §440.14(a).

(d) Based on the information provided by a local applicant and developed in any hearing held under paragraph (c) of this section, the Support Office Director shall determine in writing whether to award a grant to carry out one or more weatherization projects.

(e) If there is an adverse decision in whole or in part under paragraph (d) of this section, that decision is subject to administrative review under §440.30 of this part.

(f) If, after a State application has been finally disapproved by DOE and the Support Office Director approves local applications under this section, the Support Office Director may reject a new State application in whole or in part as disruptive and untimely without prejudice to submission of an application for the next program year.

(Approved by the Office of Management and Budget under control number 1904–0047)

[49 FR 3629, Jan. 27, 1984, as amended at 58 FR 12525, 12529, Mar. 4, 1993]

§ 440.14 State plans.

(a) Before submitting to DOE an application, a State must provide at least 10 days notice of a hearing to inform prospective subgrantees, and must conduct one or more public hearings to receive comments on a proposed State plan. The notice for the hearing must specify that copies of the plan are available and state how the public may obtain them. The State must prepare a transcript of the hearings and accept written submission of views and data for the record.

(b) The proposed State plan must:

(1) Identify and describe proposed weatherization projects, including a statement of proposed subgrantees and the amount of funding each will receive;

(2) Address the other items contained in paragraph (c) of this section; and

(3) Be made available throughout the State prior to the hearing.

(c) After the hearing, the State must prepare a final State plan that identifies and describes:

(1) The production schedule for the State indicating projected expenditures and the number of dwelling units, including previously weatherized units which are expected to be weatherized annually during the program year;

(2) The climatic conditions within the State;

(3) The type of weatherization work to be done;

(4) An estimate of the amount of energy to be conserved;

(5) Each area to be served by a weatherization project within the State, and must include for each area:

(i) The tentative allocation;

(ii) The number of dwelling units expected to be weatherized during the program year; and

(iii) Sources of labor.

(6) How the State plan is to be implemented, including:

(i) An analysis of the existence and effectiveness of any weatherization project being carried out by a subgrantee;

(ii) An explanation of the method used to select each area served by a weatherization project;

(iii) The extent to which priority will be given to the weatherization of single-family or other high energy-consuming dwelling units;

(iv) The amount of non-Federal resources to be applied to the program;

(v) The amount of Federal resources, other than DOE weatherization grant funds, to be applied to the program;

(vi) The amount of weatherization grant funds allocated to the State under this part;

(vii) The expected average cost per dwelling to be weatherized, taking into account the total number of dwellings to be weatherized and the total amount of funds, Federal and non-Federal, expected to be applied to the program;

(viii) The average amount of the DOE funds specified in §440.18(c)(1) through (9) to be applied to any dwelling unit;

(ix) [Reserved]

(x) The procedures used by the State for providing additional administrative funds to qualified subgrantees as specified in §440.18(d);

(xi) Procedures for determining the most cost-effective measures in a dwelling unit;

(xii) The definition of "low-income" which the State has chosen for determining eligibility for use statewide in accordance with §440.22(a);

(xiii) The definition of "children" which the State has chosen consistent with §440.3; and

(xiv) The amount of Federal funds and how they will be used to increase the amount of weatherization assistance that the State obtains from non-Federal sources, including private sources, and the expected leveraging effect to be accomplished.

[65 FR 77217, Dec. 8, 2000, as amended at 66 FR 58366, Nov. 21, 2001]

§ 440.15 Subgrantees.

(a) The grantee shall ensure that:

(1) Each subgrantee is a CAA or other public or nonprofit entity;

(2) Each subgrantee is selected on the basis of public comment received during a public hearing conducted pursuant to §440.14(a) and other appropriate findings regarding:

(i) The subgrantee's experience and performance in weatherization or housing renovation activities;

(ii) The subgrantee's experience in assisting low-income persons in the area to be served; and

(iii) The subgrantee's capacity to undertake a timely and effective weatherization program.

(3) In selecting a subgrantee, preference is given to any 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:

(i) The extent to which the past or current program achieved or is achieving weatherization goals in a timely fashion;

(ii) The quality of work performed by the subgrantee;

(iii) The number, qualifications, and experience of the staff members of the subgrantee; and

(iv) The ability of the subgrantee to secure volunteers, training participants, public service employment workers, and other Federal or State training programs.

(b) The grantee shall ensure that the funds received under this part will be allocated to the entities selected in accordance with paragraph (a) of this section, such that funds will be allocated to areas on the basis of the relative need for a weatherization project by low-income persons.

(c) If DOE finds that a subgrantee selected to undertake weatherization activities under this part has failed to comply substantially with the provisions of the Act or this part and should be replaced, such finding shall be treated as a finding under §440.30(i) for purposes of §440.30.

(d) Any new or additional subgrantee shall be selected at a hearing in accordance with §440.14(a) and upon the basis of the criteria in paragraph (a) of this section.

(e) A State may terminate financial assistance under a subgrant agreement for a grant period only in accordance with established State procedures that provide to the subgrantee appropriate notice of the State's reasons for termination and afford the subgrantee an adequate opportunity to be heard.

[49 FR 3629, Jan. 27, 1984, as amended at 55 FR 41326, Oct. 10, 1990; 58 FR 12526, Mar. 4, 1993; 65 FR 77218, Dec. 8, 2000]

§ 440.16 Minimum program requirements.

Prior to the expenditure of any grant funds each grantee shall develop, publish, and implement procedures to ensure that:

(a) No dwelling unit may be weatherized without documentation that the dwelling unit is an eligible dwelling unit as provided in §440.22;

(b) Priority is given to identifying and providing weatherization assistance to:

(1) Elderly persons;

(2) Persons with disabilities;

(3) Families with children;

(4) High residential energy users; and

(5) Households with a high energy burden.

(c) Financial assistance provided under this part will be used to supplement, and not supplant, State or local funds, and, to the maximum extent practicable as determined by DOE, to increase the amounts of these funds that would be made available in the absence of Federal funds provided under this part;

(d) To the maximum extent practicable, the grantee will secure the services of volunteers when such personnel are generally available, training participants and public service employment workers, other Federal or State training program workers, to work under the supervision of qualified supervisors and foremen;

(e) To the maximum extent practicable, the use of weatherization assistance shall be coordinated with other Federal, State, local, or privately funded programs in order to improve energy efficiency and to conserve energy;

(f) The low-income members of an Indian tribe shall receive benefits equivalent to the assistance provided to other low-income persons within a State unless the grantee has made the recommendation provided in §440.12(b)(5);

(g) No dwelling unit may be reported to DOE as completed until all weatherization materials have been installed and the subgrantee, or its authorized representative, has performed a final inspection(s) including any mechanical work performed and certified that the work has been completed in a workmanlike manner and in accordance with the priority determined by the audit procedures required by §440.21; and

(h) Subgrantees limit expenditure of funds under this part for installation of materials (other than weatherization materials) to abate energy-related health and safety hazards, to a list of types of such hazards, permissible abatement materials and their costs which is submitted, and updated as necessary at the same time as an annual application under §440.12 of this part and which DOE shall approve if—

(1) Elimination of such hazards are necessary before, or as a result of, installation of weatherization materials; and

(2) The grantee sets forth a limitation on the percent of average dwelling unit costs which may be used to abate such hazards which is reasonable in light of the primary energy conservation purpose of this part;

(i) The benefits of weatherization to occupants of rental units are protected in accordance with §440.22(b)(3) of this part.

(Approved by the Office of Management and Budget under control number 1904–0047)

[49 FR 3629, Jan. 27, 1984, as amended at 58 FR 12526, Mar. 4, 1993; 65 FR 77218, Dec. 8, 2000]

§ 440.17 Policy Advisory Council.

(a) Prior to the expenditure of any grant funds, a State policy advisory council, or a State commission or council which serves the same functions as a State policy advisory council, must be established by a State or by the Regional Office Director if a State does not participate in the Program which:

(1) Has special qualifications and sensitivity with respect to solving the problems of low-income persons, including the weatherization and energy conservation problems of these persons;

(2) Is broadly representative of organizations and agencies, including consumer groups that represent low-income persons, particularly elderly and handicapped low-income persons and low-income Native Americans, in the State or geographical area in question; and

(3) Has responsibility for advising the appropriate official or agency administering the allocation of financial assistance in the State or area with respect to the development and implementation of a weatherization assistance program.

(b) Any person employed in any State Weatherization Program may also be a member of an existing commission or council, but must abstain from reviewing and approving activities associated with the DOE Weatherization Assistance Program.

(c) States which opt to utilize an existing commission or council must certify to DOE, as a part of the annual application, of the council's or commission's independence in reviewing and approving activities associated with the DOE Weatherization Assistance Program.

[49 FR 3629, Jan. 27, 1984, as amended at 58 FR 12529, Mar. 4, 1993; 65 FR 77218, Dec. 8, 2000]

§ 440.18 Allowable expenditures.

(a) Except as adjusted, the expenditure of financial assistance provided under this part for labor, weatherization materials, and related matters included in paragraphs (c)(1) through (9) of this section shall not exceed an average of $6,500 per dwelling unit weatherized in the State, except as adjusted in paragraph (c) of this section.

(b) The expenditure of financial assistance provided under this part for labor, weatherization materials, and related matters for a renewable energy system, shall not exceed an average of $3,000 per dwelling unit.

(c) The $6,500 average will be adjusted annually by DOE beginning in calendar year 2010 and the $3,000 average for renewable energy systems will be adjusted annually by DOE beginning in calendar year 2007, by increasing the limitations by an amount equal to:

(1) The limitation amount for the previous year, multiplied by

(2) The lesser of:

(i) The percentage increase in the Consumer Price Index (all items, United States city average) for the most recent calendar year completed before the beginning of the year for which the determination is being made, or

(ii) Three percent.

(3) For the purposes of determining the average cost per dwelling limitation, costs for the purchase of vehicles or other certain types of equipment as defined in 10 CFR part 600 may be amortized over the useful life of the vehicle or equipment.

(d) Allowable expenditures under this part include only:

(1) The cost of purchase and delivery of weatherization materials;

(2) Labor costs, in accordance with §440.19;

(3) Transportation of weatherization materials, tools, equipment, and work crews to a storage site and to the site of weatherization work;

(4) Maintenance, operation, and insurance of vehicles used to transport weatherization materials;

(5) Maintenance of tools and equipment;

(6) The cost of purchasing vehicles, except that any purchase of vehicles must be referred to DOE for prior approval in every instance.

(7) Employment of on-site supervisory personnel;

(8) Storage of weatherization materials, tools, and equipment;

(9) The cost of incidental repairs if such repairs are necessary to make the installation of weatherization materials effective;

(10) The cost of liability insurance for weatherization projects for personal injury and for property damage;

(11) The cost of carrying out low-cost/no-cost weatherization activities in accordance with §440.20;

(12) The cost of weatherization program financial audits as required by §440.23(d);

(13) Allowable administrative expenses under paragraph (d) of this section; and

(14) Funds used for leveraging activities in accordance with §440.14(b)(9)(xiv); and

(15) The cost of eliminating health and safety hazards elimination of which is necessary before, or because of, installation of weatherization materials.

(e) Not more than 10 percent of any grant made to a State may be used by the grantee and subgrantees for administrative purposes in carrying out duties under this part, except that not more than 5 percent may be used by the State for such purposes, and not less than 5 percent must be made available to subgrantees by States. A State may provide in its annual plan for recipients of grants of less than $350,000 to use up to an additional 5 percent of such grants for administration if the State has determined that such recipient requires such additional amount to implement effectively the administrative requirements established by DOE pursuant to this part.

(f) No grant funds awarded under this part shall be used for any of the following purposes:

(1) To weatherize a dwelling unit which is designated for acquisition or clearance by a Federal, State, or local program within 12 months from the date weatherization of the dwelling unit would be scheduled to be completed; or

(2) To install or otherwise provide weatherization materials for a dwelling unit weatherized previously with grant funds under this part, except:

(i) As provided under §440.20;

(ii) If 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; or

(iii) That dwelling units partially weatherized under this part or under other Federal programs during the period September 30, 1975, through September 30, 1993, may receive further financial assistance for weatherization under this part. While DOE will continue to require these homes to be reported separately, States may count these homes as completions for the purposes of compliance with the per-home expenditure limit in §440.18. Each dwelling unit must receive a new energy audit which takes into account any previous energy conservation improvements to the dwelling.

[58 FR 12526, Mar. 4, 1993, as amended at 65 FR 77218, Dec. 8, 2000; 66 FR 58366, Nov. 21, 2001; 71 FR 35778, June 22, 2006; 74 FR 12540, Mar. 25, 2009]

§ 440.19 Labor.

Payments for labor costs under §440.18(c)(2) must consist of:

(a) Payments permitted by the Department of Labor to supplement wages paid to training participants, public service employment workers, or other Federal or State training programs; and

(b) Payments to employ labor or to engage a contractor (particularly a nonprofit organization or a business owned by disadvantaged individuals which performs weatherization services), provided a grantee has determined an adequate number of volunteers, training participants, public service employment workers, or other Federal or State training programs are not

available to weatherize dwelling units for a subgrantee under the supervision of qualified supervisors.

[65 FR 77218, Dec. 8, 2000]

§ 440.20 Low-cost/no-cost weatherization activities.

(a) An eligible dwelling unit may be weatherized without regard to the limitations contained in §440.18 (e)(2) or §440.21(b) from funds designated by the grantee for carrying out low-cost/no-cost weatherization activities provided:

(1) Inexpensive weatherization materials are used, such as water flow controllers, furnace or cooling filters, or items which are primarily directed toward reducing infiltration, including weatherstripping, caulking, glass patching, and insulation for plugging and

(2) No labor paid with funds provided under this part is used to install weatherization materials referred to in paragraph (a)(1) of this section.

(b) A maximum of 10 percent of the amount allocated to a subgrantee, not to exceed $50 in materials costs per dwelling unit, may be expended to carry out low-cost/no-cost weatherization activities, unless the Support Office Director approves a higher expenditure per dwelling unit.

[49 FR 3629, Jan. 27, 1984, as amended at 50 FR 713, Jan. 4, 1985; 58 FR 12529, Mar. 4, 1993]

§ 440.21 Weatherization materials standards and energy audit procedures.

(a) Paragraph (b) of this section describes the required standards for weatherization materials. Paragraph (c)(1) of this section describes the performance and quality standards for renewable energy systems. Paragraph (c)(2) of this section specifies the procedures and criteria that are used for considering a petition from a manufacturer requesting the Secretary to certify an item as a renewable energy system. Paragraphs (d) and (e) of this section describe the cost-effectiveness tests that weatherization materials must pass before they may be installed in an eligible dwelling unit. Paragraph (f) of this section lists the other energy audit requirements that do not pertain to cost-effectiveness tests of weatherization materials. Paragraphs (g) and (h) of this section describe the use of priority lists and presumptively cost-effective general heat waste reduction materials as part of a State's energy audit procedures. Paragraph (i) of this section explains that a State's energy audit procedures and priority lists must be re-approved by DOE every five years.

(b) Only weatherization materials which are listed in appendix A to this part and which meet or exceed standards prescribed in appendix A to this part may be purchased with funds provided under this part. However, DOE may approve an unlisted material upon application from any State.

(c)(1) A system or technology shall not be considered by DOE to be a renewable energy system under this part unless:

(i) It will result in a reduction in oil or natural gas consumption;

(ii) It will not result in an increased use of any item which is known to be, or reasonably expected to be, environmentally hazardous or a threat to public health or safety;

(iii) Available Federal subsidies do not make such a specification unnecessary or inappropriate (in light of the most advantageous allocation of economic resources); and

(iv) If a combustion rated system, it has a thermal efficiency rating of at least 75 percent; or, in the case of a solar system, it has a thermal efficiency rating of at least 15 percent.

(2) Any manufacturer may submit a petition to DOE requesting the Secretary to certify an item as a renewable energy system.

(i) Petitions should be submitted to: Weatherization Assistance Program, Office of Energy Efficiency and Renewable, Mail Stop EE–2K, 1000 Independence Avenue, SW., Washington, DC 20585.

(ii) A petition for certification of an item as a renewable energy system must be accompanied by information demonstrating that the item meets the criteria in paragraph (c)(1) of this section.

(iii) DOE may publish a document in the Federal Register that invites public comment on a petition.

(iv) DOE shall notify the petitioner of the Secretary's action on the request within one year after the filing of a complete petition, and shall publish notice of approvals and denials in the Federal Register.

(d) Except for materials to eliminate health and safety hazards allowable under §440.18(c)(15), each individual weatherization material and package of weatherization materials installed in an eligible dwelling unit must be cost-effective. These materials must result in energy cost savings over the lifetime of the measure(s), discounted to present value, that equal or exceed the cost of materials, installation, and on-site supervisory personnel as defined by the Department. States have the option of requiring additional related costs to be included in the determination of cost-effectiveness. The cost of incidental repairs must be included in the cost of the package of measures installed in a dwelling.

(e) The energy audit procedures must assign priorities among individual weatherization materials in descending order of their cost-effectiveness according to paragraph (d) of this section after:

(1) Adjusting for interaction between architectural and mechanical weatherization materials by using generally accepted engineering methods to decrease the estimated fuel cost savings for a lower priority weatherization material in light of fuel cost savings for a related higher priority weatherization material; and

(2) Eliminating any weatherization materials that are no longer cost-effective, as adjusted under paragraph (e)(1) of this section.

(f) The energy audit procedures also must—

(1) Compute the cost of fuel saved per year by taking into account the climatic data of the area where the dwelling unit is located, where the base temperature that determines the number of heating or cooling degree days (if used) reasonably approximates conditions when operation of heating and cooling equipment is required to maintain comfort, and must otherwise use reasonable energy estimating methods and assumptions;

(2) Determine existing energy use and energy requirements of the dwelling unit from actual energy bills or by generally accepted engineering calculations;

(3) Address significant heating and cooling needs;

(4) Make provision for the use of advanced diagnostic and assessment techniques which DOE has determined are consistent with sound engineering practices;

(5) Identify health and safety hazards to be abated with DOE funds in compliance with the State's DOE-approved health and safety procedures under §440.16(h);

(6) Treat the dwelling unit as a whole system by examining its heating and cooling system, its air exchange system, and its occupants' living habits and needs, and making necessary adjustments to the priority of weatherization materials with adequate documentation of the reasons for such an adjustment; and

(7) Be specifically approved by DOE for use on each major dwelling type that represents a significant portion of the State's weatherization program in light of the varying energy audit requirements of different dwelling types including single-family dwellings, multi-family buildings, and mobile homes.

(g) For similar dwelling units without unusual energy-consuming characteristics, energy audits may be accomplished by using a priority list developed by conducting, in compliance with paragraphs (b) through (f) of this section, site-specific energy audits of a representative subset of these dwelling units. For DOE approval, States must describe how the priority list was developed, how the subset of similar homes was determined, and circumstances that will require site-specific audits rather than the use of the priority lists. States also must provide the

input data and list of weatherization measures recommended by the energy audit software or manual methods for several dwelling units from the subset of similar units.

(h) States may use, as a part of an energy audit, general heat waste reduction weatherization materials that DOE has determined to be generally cost-effective. States may request approval to use general heat waste materials not listed in DOE policy guidance by providing documentation of their cost-effectiveness and a description of the circumstances under which such materials will be used.

(i) States must resubmit their energy audit procedures (and priority lists, if applicable, under certain conditions) to DOE for approval every five years. States must also resubmit to DOE, for approval every five years, their list of general heat waste materials in addition to those approved by DOE in policy guidance, if applicable. Policy guidance will describe the information States must submit to DOE and the circumstances that reduce or increase documentation requirements.

[65 FR 77218, Dec. 8, 2000, as amended at 71 FR 35778, June 22, 2006]

§ 440.22 Eligible dwelling units.

(a) A dwelling unit shall be eligible for weatherization assistance under this part if it is occupied by a family unit:

(1) Whose income is at or below 200 percent of the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget,

(2) Which contains a member who has received cash assistance payments under Title IV or XVI of the Social Security Act or applicable State or local law at any time during the 12-month period preceding the determination of eligibility for weatherization assistance; or

(3) If the State elects, is eligible for assistance under the Low-Income Home Energy Assistance Act of 1981, provided that such basis is at least 200 percent of the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget.

(b) A subgrantee may weatherize a building containing rental dwelling units using financial assistance for dwelling units eligible for weatherization assistance under paragraph (a) of this section, where:

(1) The subgrantee has obtained the written permission of the owner or his agent;

(2) Not less than 66 percent (50 percent for duplexes and four-unit buildings, and certain eligible types of large multi-family buildings) of the dwelling units in the building:

(i) Are eligible dwelling units, or

(ii) Will become eligible dwelling units within 180 days under a Federal, State, or local government program for rehabilitating the building or making similar improvements to the building; and

(3) The grantee has established procedures for dwellings which consist of a rental unit or rental units to ensure that:

(i) The benefits of weatherization assistance in connection with such rental units, including units where the tenants pay for their energy through their rent, will accrue primarily to the low-income tenants residing in such units;

(ii) For a reasonable period of time after weatherization work has been completed on a dwelling containing a unit occupied by an eligible household, the tenants in that unit (including households paying for their energy through their rent) will not be subjected to rent increases unless those increases are demonstrably related to matters other than the weatherization work performed;

(iii) The enforcement of paragraph (b)(3)(ii) of this section is provided through procedures established by the State by which tenants may file complaints, and owners, in response to such complaints, shall demonstrate that the rent increase concerned is related to matters other than the weatherization work performed; and

(iv) No undue or excessive enhancement shall occur to the value of the dwelling units.

(4)(i) A building containing rental dwelling units meets the requirements of paragraph (b)(2), and paragraphs (b)(3)(ii) and (b)(3)(iv), of this section if it is included on the most recent list posted by DOE of Assisted Housing and Public Housing buildings identified by the U.S. Department of Housing and Urban Development as meeting those requirements.

(ii) A building containing rental dwelling units meets the requirements of paragraph (b)(2), and paragraph (b)(3)(iv), of this section if it is included on the most recent list posted by DOE of Assisted Housing and Public Housing buildings identified by the U.S. Department of Housing and Urban Development as meeting those requirements.

(iii) A building containing rental dwelling units meets the requirement of paragraph (b)(2) of this section if it is included on the most recent list posted by DOE of Low Income Housing Tax Credit buildings identified by the U.S. Department of Housing and Urban Development as meeting that requirement and of Rural Housing Service Multifamily Housing buildings identified by the U.S. Department of Agriculture as meeting that requirement.

(iv) For buildings identified under paragraphs (b)(4)(i), (ii) and (iii) of this section, States will continue to be responsible for ensuring compliance with the remaining requirements of this section, and States shall establish requirements and procedures to ensure such compliance in accordance with this section.

(c) In order to secure the Federal investment made under this part and address the issues of eviction from and sale of property receiving weatherization materials under this part, States may seek landlord agreement to placement of a lien or to other contractual restrictions;

(d) As a condition of having assistance provided under this part with respect to multifamily buildings, a State may require financial participation, when feasible, from the owners of such buildings. Such financial participation shall not be reported as program income, nor will it be treated as if it were appropriated funds. The funds contributed by the landlord shall be expended in accordance with the agreement between the landlord and the weatherization agency.

(e) In devising procedures under paragraph (b)(3)(iii) of this section, States should consider requiring use of alternative dispute resolution procedures including arbitration.

(f) A State may weatherize shelters. For the purpose of determining how many dwelling units exist in a shelter, a grantee may count each 800 square feet of the shelter as a dwelling unit or it may count each floor of the shelter as a dwelling unit.

[58 FR 12528, Mar. 4, 1993, as amended at 65 FR 77219, Dec. 8, 2000; 74 FR 12540, Mar. 25, 2009; 75 FR 3856, Jan. 25, 2010]

§ 440.23 Oversight, training, and technical assistance.

(a) The Secretary and the appropriate Support Office Director, in coordination with the Secretary of Health and Human Services, shall monitor and evaluate the operation of projects carried out by CAA's receiving financial assistance under this part through on-site inspections, or through other means, in order to ensure the effective provision of weatherization assistance for the dwelling units of low-income persons.

(b) DOE shall also carry out periodic evaluations of a program and weatherization projects that are not carried out by a CAA and that are receiving financial assistance under this part.

(c) The Secretary and the appropriate Support Office Director, the Comptroller General of the United States, and for a weatherization project carried out by a CAA, the Secretary of Health and Human Services or any of their duly authorized representatives, shall have access to any books, documents, papers, information, and records of any weatherization project receiving financial assistance under the Act for the purpose of audit and examination.

(d) Each grantee shall ensure that audits by or on behalf of subgrantees are conducted with reasonable frequency, on a continuing basis, or at scheduled intervals, usually annually, but not

less frequently than every two years, in accordance with 10 CFR part 600, and OMB Circular 110, Attachment F, as applicable.

(e) The Secretary may reserve from the funds appropriated for any fiscal year an amount not to exceed 20 percent to provide, directly or indirectly, training and technical assistance to any grantee or subgrantee. Such training and technical assistance may include providing information concerning conservation practices to occupants of eligible dwelling units.

[49 FR 3629, Jan. 27, 1984, as amended at 58 FR 12529, Mar. 4, 1993; 74 FR 12540, Mar. 25, 2009]

§ 440.24 Recordkeeping.

Each grantee or subgrantee receiving Federal financial assistance under this part shall keep such records as DOE shall require, including records which fully disclose the amount and disposition by each grantee and subgrantee 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 not supplied by DOE, the average costs incurred in weatherization of individual dwelling units, the average size of the dwelling being weatherized, the average income of households receiving assistance under this part, and such other records as DOE deems necessary for an effective audit and performance evaluation. Such recordkeeping shall be in accordance with the DOE Financial Assistance Rule, 10 CFR part 600, and any further requirements of this part.

[58 FR 12529, Mar. 4, 1993]

§ 440.25 Reports.

DOE may require any recipient of financial assistance under this part to provide, in such form as may be prescribed, such reports or answers in writing to specific questions, surveys, or questionnaires as DOE determines to be necessary to carry out its responsibilities or the responsibilities of the Secretary of Health and Human Services under this part.

(Approved by the Office of Management and Budget under control number 1901–0127)

§§ 440.26-440.29 [Reserved]

§ 440.30 Administrative review.

(a) An applicant shall have 20 days from the date of receipt of a decision under §440.12 or §440.13 to file a notice requesting administrative review. If an applicant does not timely file such a notice, the decision under §440.12 or §440.13 shall become final for DOE.

(b) A notice requesting administrative review shall be filed with the Support Office Director and shall be accompanied by a written statement containing supporting arguments and requesting, if desired, the opportunity for a public hearing.

(c) A notice or any other document shall be deemed filed under this section upon receipt.

(d) On or before 15 days from receipt of a notice requesting administrative review which is timely filed, the Support Office Director shall forward to the Deputy Assistant Secretary, the notice requesting administrative review, the decision under §440.12 or §440.13 as to which administrative review is sought, a draft recommended final decision for the concurrence of the Deputy Assistant Secretary, and any other relevant material.

(e) If the applicant requests a public hearing, the Deputy Assistant Secretary, within 15 days, shall give actual notice to the State and Federal Register notice of the date, place, time, and procedures which shall apply to the public hearing. Any public hearing under this section shall be informal and legislative in nature.

(f) On or before 45 days from receipt of documents under paragraph (d) of this section or the conclusion of the public hearing, whichever is later, the Deputy Assistant Secretary shall concur in, concur in as modified, or issue a substitute for the recommended decision of the Support Office Director.

(g) On or before 15 days from the date of receipt of the determination under paragraph (f) of this section, the Governor may file an application, with a supporting statement of reasons, for discretionary review by the Assistant Secretary. On or before 15 days from filing, the Assistant Secretary shall send a notice to the Governor stating whether the Deputy Assistant Secretary's determination will be reviewed. If the Assistant Secretary grants review, a decision shall be issued no later than 60 days from the date review is granted. The Assistant Secretary may not issue a notice or decision under this paragraph without the concurrence of the DOE Office of General Counsel.

(h) A decision under paragraph (f) of this section shall be final for DOE if there is no review under paragraph (g) of this section. If there is review under paragraph (g) of this section, the decision thereunder shall be final for DOE, and no appeal shall lie elsewhere in DOE.

(i) Prior to the effective date of the termination of eligibility for further participation in the program because of failure to comply substantially with the requirements of the Act or of this part, a grantee shall have the right to written notice of the basis for the enforcement action and the opportunity for a public hearing notwithstanding any provisions to contrary of 10 CFR 600.26, 600.28(b), 600.29, 600.121(c), and 600.443. A notice under this paragraph shall be mailed by the Support Office Director by registered mail, return-receipt requested, to the State, local grantee, and other interested parties. To obtain a public hearing, the grantee must request an evidentiary hearing, with prior Federal Register notice, in the election letter submitted under Rule 2 of 10 CFR 1024.4 and the request shall be granted notwithstanding any provisions of Rule 2 to the contrary.

[55 FR 41326, Oct. 10, 1990, as amended at 58 FR 12529, Mar. 4, 1993]

Weatherization Operations Manual, Effective April 1, 2019 (WOM 2019)

Section 9. Department of Energy (DOE) Guidelines

Attachments: 2019 Alaska Field Guide

2019 DOE Health and Safety Plan

2019 Weatherization Assistance Program State Plan

To minimize the size of the all-inclusive pdf of WOM 2019, the above DOE attachments are not included.

These documents were previously distributed to DOE Subgrantees. They also are available at AHFC's web site for download.

In your browser, navigate to

https://www.ahfc.us/efficiency/research-information-center/manuals-forms-and-workbooks/weatherization-operations-manual

Scroll down to the links below Section 9. U.S. Department of Energy Guidelines

AK Combustion Safety Test Form (CSTF) Technical Support Document

This document is intended to support in detail the Combustion Safety Test Form. The Combustion Safety Test Form is a tool to document the condition of two (2) appliances and their performance. Each combustion appliance in homes that are weatherized or repaired must be documented. The pre- and post- tests are documented on the Combustion Safety Test Form. The CSTF is filled out by the Energy Auditor and the Quality Control Inspector respectively.

The Combustion Safety Test Form must be filled out in detail for each completed project. You must document in the comments section of the Combustion Safety Test Form any special circumstances or health and safety related concerns that might help someone understand the condition of the home (pre- and post-), as well as the concerns expressed by the occupants, or the agency concerns for the occupants safety at the time testing was performed.
The testing procedure outlined in this document is intended to be the minimum tests needed to understand the condition and performance of an appliance. It is recommended that more in-depth testing be performed where multiple appliances share a chimney, or where other indications of potential problems exist.

Line 1

Always start testing safely.

Start all testing tools, Combustion Analyzer, Combustibles Gas Detector, 4 Gas Monitor outdoors.

Confirm readings outside, away from combustion and roadways.

- Use your 4 gas monitor to confirm you are working in a safe environment.
- Monitor ambient Carbon Monoxide before testing and during all testing.

Walk into the building and monitor an indoor ambient air CO reading and a combustible gas %LEL reading on each floor.

Use the appropriate action level table to assess the safe environment.

Safe Environment

If any Ambient CO is found,
Reference the ***CO Action Levels (& LEL)*** table (on page 2 of form) for guidance.

Line 2 Natural Gas and LP Piping Testing

With your Combustible Gas Detector (CGD) check for leaks at the tank/meter, gas lines, pipe fittings, supply lines connecting to the appliance, appliance gas valve and regulator.

Document if leaks were found YES / NO and follow appropriate action level:

2a. When the CGD indicates that combustible gas exists in the ambient atmosphere (at any level below 10% of LEL) and a gas leak cannot be confirmed with the use of leak detection solution, the auditor shall inform the homeowner/occupants and advise the homeowner/occupant to notify the gas company and/or a qualified professional.

2b. Detected leaks confirmed with fluid?

Action Level

Where the auditor identifies deficiencies in gas piping materials, connections, components, or supports, the deficiencies shall be noted in project documentation along with a recommendation that the homeowner/occupant contact a qualified professional to inspect the system.

Line 3a Identification of Appliances

3a. What kind of appliances are being tested?

Line 4 Visual Inspection of CAZ for Unsafe Conditions

Is there anything in the CAZ that could be considered a health and safety problem? Indoor Air Quality (IAQ), electrical discrepancies, fire hazards, combustibles, or potential testing problems that should be documented. If yes, ***follow the action level table required.***

4a. The CAZ must be free of flammable products such as liquid and pressurized vapors

4b. The CAZ must be free of combustibles such as rags and paper in the immediate area of the appliance.

4c. Water Heaters in garages must be 18" above the floor or Flame Vapor Ignition Resistant listed.

- Residential water heaters manufactured after 2003 are **"FVIR"** (Flammable Vapor Ignition Resistant) compliant, this means that the combustion chamber is now sealed. In order to light the water heater, you must use the pilot mechanism and you can no longer use a match.
- Effective July 1, 2003, all water heater manufacturers are required to build their 30, 40, & 50 gallon atmospheric vent water heaters to new government standards. The American National Standards Institution (ANSI) has established these new standards to prevent accidental or unintended ignition of flammable vapors, such as those emitted by gasoline.

4d. The combustion appliance vent must have appropriate clearance to combustibles.

Use the table to assess clearance to combustibles and document.

Actions Required/Guidance

1. Unsafe conditions may be alleviated by removal of obstructions and materials and advise the occupant is what has been done.
2. Unsafe conditions that cannot be immediately fixed, the occupant shall be advised appliance should not be used until the unsafe condition is fixed.

3. Unsafe condition WATER HEATER IN GARAGE is not at least 18" above the floor and is not FVIR listed. Advise occupant of the unsafe condition.
4. Unsafe conditions shall be noted in project documentation.

Line 5-5e Setting up CAZ in worst case

The intent of setting up the CAZ in worst case is to set it up with the greatest negative pressure. This may require opening and closing doors and turning on and off fans to attain this pressure.

The intent of documenting lines 6a-6i is to show in what condition the greatest negative pressure was achieved. With that information if spillage occurs use table:
ANNEX D (BPI 1200) ACTION LEVELS FOR SPILLAGE AND CO IN COMBUSTION APPLIANCES.
This table states the 3 conditions that spillage occurs, read the table carefully and be aware of spillage and excessive CO requirement.

Procedure for setting up the CAZ in Worst Case.

1. Place all combustion appliances located within the CAZ in their standby mode and prepare for operation.
2. Turn off any mechanical ventilation and forced air cooling or heating system blowers.
3. Fires in woodstoves and/or fireplaces shall be fully extinguished, with no hot coals or embers, prior to performing a depressurization test. Close fireplace dampers and any fireplace doors.
4. Close all building exterior doors and windows. **Close all CAZ doors**. Close the interior doors of all rooms except for rooms with an exhaust fan and rooms with a central forced air system return. Outdoor openings for combustion air shall remain open.
5. Using a calibrated manometer or similar pressure measuring device intended for this purpose, measure and record the baseline pressure in the **CAZ with reference to (WRT) outside pa.**
6. Turn on the following exhaust equipment: clothes dryers (check and clean the dryer filter and look for blockage at the external vent damper prior to operation), range hoods, and other exhaust fans. If there are speed controls, operate the exhaust equipment at the highest speed setting. Do not operate a whole house cooling exhaust fan. Measure and record pressure in the **CAZ with reference to (WRT) outside pa.**
7. Turn on central forced air blower. Measure and record pressure in the **CAZ with reference to (WRT) outside pa.**
8. IF the CAZ goes more negative with blower on leave on for the test, if the CAZ goes more positive leave off for the test.
9. Open the CAZ door measure and record pressure in the **CAZ with reference to (WRT) outside pa.**
10. If the changing the CAZ door makes it more negative leave it open for the test, if not leave it closed.
11. Start the spillage test with largest negative pressure in the CAZ with reference to (WRT) outside.

Line 6a-6d CO and Spillage Assessment single vent

CO and Spillage assessments are performed on open combustion natural draft appliances that have a draft hood or barometric damper. Examples are gas or oil fired water heaters, gas or oil fired furnaces and decorative room heaters with a draft hood.

Spillage is assessed at 2 minutes operation (warm vent) in appliances that are in on position when you are there for your energy audit. Spillage is assessed at 5 minutes of operation (cold

vent) on appliances that are not in on position when you are auditing the home. Examples might be a furnace in off position because it is summer or a decorative room heater set to pilot because it is only used on holidays.

If spillage fails it is suggested you take your CO measurement as soon as possible to avoid exposing yourself to excessive combustion gas.

CO is assessed at 5 minutes of burner operation unless the appliance has failed spillage.

CO assessments in combustion appliances are done in the undiluted flue gases.

CO measurements are done AIR FREE. Air FREE is only available on a combustion analyzer that has and oxygen sensor.

Ambient CO is measured at during the test and at the end of the test.

Line 7 CO Assessment mutiple appliances common vent

Test appliances in order from lowest BTUh rating to highest.

The appliance with lowest BTUh input rating shall be assessed for spillage and CO measurement in undiluted flue gas conducted in accordance to above instructions.

Upon completion of first appliance test, place next largest appliance in operation, while first appliance is still operating.

Retest first appliance for spillage when second appliance has reached 2 minutes of main burner operation. Test second appliance for spillage immediately thereafter.

Measure CO of the second appliance at 5 minutes of its main burner operation. Continue this operation for each additional appliance.

Actions Required/Guidance *for lines 6 and 7*

If the any CO Threshold Limits are exceeded, then the Local agency must take steps to eliminate the problem:

- Advise the homeowner/occupant that the appliance should be serviced immediately by a qualified professional.
- The SWS and the AK Field Guide require service to be provided.

Line 8 CO Assessment – Furnace ONLY

Appliances that are not tested for **spillage** but are tested for **CO** would include appliances; closed combustion, direct vent, induced draft, category 3 and category 4 appliances.

Induced draft appliances that are vented in common with natural draft water heaters will be tested for CO and spillage.

- CO is assessed at 5 minutes of burner operation.
- CO assessments in combustion appliances are done in the undiluted flue gases.

- CO measurements are done AIR FREE. Air FREE is only available on a combustion analyzer that has an oxygen sensor.

Ambient CO is measured during the test and at the end of the test

Line 9-9c Natural Gas and LP Oven Testing

9a. Always check in the oven for stored items before starting the oven.

Assess Burner Flame Quality: Yellow flame?

Start the oven at 350 degrees, after 5 minutes turn the oven up to 500 degrees to make sure the oven is on when taking your measurement.

9b. Record the CO as measured after 5 minutes of operation.

Use the ***CO Thresholds For Fossil-Fueled Fired Combustion Appliances*** table to determine whether the CO level is acceptable. Based upon the result follow the action required using the ***CO Action Levels (&LEL)*** table.

Oven CO measurements are done in the vent of the oven and are done in CO as measured. This is a different line, window, in the menu on your combustion analyzer.

If the CO Threshold Limit (*per BPI for Oven/Broiler if CO > 225 as measured*) is exceeded,

- The SWS and the AK Field Guide require service to be provided.
- If it is not possible to eliminate the problem, document in the client file the actions taken and confirmation the client was informed of the issue.

Line 10 WoodStove/FirePlace

Set up your manometer in the room with the woodstove and measure the pressure “fireplace woodstove zone with reference to outside”. Document the number. If the measurement exceeds the limit, action must be taken.