

HEALTH & SAFETY PLAN

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1. ALLOWABLE HEALTH & SAFETY MEASURES

See Health & Safety Matrix Attachment.

2. HEALTH & SAFETY EXPENDITURE LIMITS AS PERCENTAGE OF PROGRAM OPERATIONS

MFA and the NM EnergySmart service providers are requesting 25% of ACPU funding for Health and Safety expenditures. The current per-unit average for Health & Safety expenditures is \$1,591.00, down from \$1,961.61 for the previous period. This average is a calculation based on the number of completed units and the total amount of H&S funding used for the last 13 months. The threshold for Health and Safety limitations is \$3,500. Subgrantees will need prior authorization to spend more than that amount with adequate justification.

The figure is intended to provide Subgrantees with an average figure for projecting expenditure for the remainder of the program year.

Measure	Quantity	Total Cost	Average	Frequency	Total
Carbon Monoxide Detector	537	\$45,775.14	\$85.24	100%	\$85.24
Smoke Alarms	537	\$30,750.44	\$57.26	100%	\$57.26
Mechanical Ventilation	537	\$407,012.19	\$757.94	100%	\$757.94
Heater Replacement	24	\$33,745.80	\$1,406.08	4%	\$62.84
Water Heater Replacement	150	\$143,673.68	\$957.82	28%	\$267.55
Furnace Repair/Tune up	20	\$6,268.06	\$313.40	4%	\$11.67
Dryer Vent	168	\$13,451.70	\$80.07	31%	\$25.05
*Other Health and Safety	315	\$149,685.60	\$475.19	59%	\$278.55
Total H&S Per Unit Previous 123 months					\$1591.00

Total Proposed H&S Per Unit

\$1500.00

*The category of other health and safety includes electrical repair, water heater repair, gas range repair, combustion air correction, venting repair, and gas leak repair.

These funds will be budgeted as a separate budget category, excluded from program operations funds. This separation of funding excludes Health & Safety costs from the average per-unit cost calculation and allows these costs to be isolated from energy efficiency costs in program evaluations. When Health & Safety funds are unavailable, the costs for any health and safety measures must be included in the calculation of the average cost per home and cost-justified through the audit. MFA staff will monitor Health & Safety expenditures during monthly desk monitoring, QC inspections, and annual Technical Monitoring.

In addition to the management controls for specific SWS and 17-7-enabled measures, Subgrantees must request prior authorization for homes receiving more than \$3500 in H&S funding. This communication will allow the agencies and MFA to budget for H&S expenditures in the future in an efficient manner. In addition to controls, MFA has also incorporated SWS items into existing training and additional trainings as needed..

1. The following measures require prior authorization from MFA:
 - a. Air Conditioning
 - b. Drainage - gutters, down spouts, extensions, flashing, sump pumps, landscape, etc.
 - c. Fire Hazards
 - d. Removal of air pollutant measures
 - e. Injury Prevention of Occupants and Weatherization Workers
 - f. Occupant Preexisting or Potential Health Conditions

Review process includes email to MFA describing specific H & S condition and rationale for that particular measure. If it is determined reasonable and justified, MFA will send an approval email back to the agency that serves as documentation in the client file.

2. The following measures are not allowed under Health & Safety:
 - a. Repair, replacement, or installation of stand alone, electric space heaters.
 - b. Replacement, repair, or installation of windows
 - c. Replacement of cook stoves
 - d. Structural modifications that are not necessary to install energy efficient or health and safety measures

3. REFERRAL STANDARDS

If serious Health & Safety conditions are discovered during the initial inspection of the home, the home should be referred to the appropriate Subgrantees for remedial action. Weatherization should not be undertaken until the problems have been alleviated. However, weatherization funds may be used to correct energy-related conditions to allow for effective weatherization work and/or to assure the immediate or future health of workers and clients. Subgrantees are expected to pursue reasonable options on behalf of the client, including referrals, and to use good judgment in dealing with difficult situations.

4. DEFERRAL STANDARDS

Deferral may be necessary if health and safety issues cannot be adequately addressed through this guidance. The decision to defer work in a dwelling is difficult but necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. In the judgment of the service provider, which includes crews and contractors, any conditions that exist, which may endanger the health and/or safety of the workers or occupants, should be deferred until the conditions are corrected. Deferral may also be necessary where occupants are uncooperative, abusive, or threatening.

Subgrantees have developed guidelines and a standardized form for such situations. The form will include the client's name and address, dates of the audit/assessment and when the client was informed, a clear description of the problem, conditions under which weatherization could continue, the responsibility of all parties involved, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options.

Deferral conditions may include:

- ◆ The client is at risk if he or she have known health conditions that prohibit the installation of insulation and other weatherization materials.
 - These health conditions can include but are not limited to respiratory illnesses, skin conditions, illegal drug use, and other conditions made known to the program by the client's physician or health practitioner.
- ◆ The building structure or its mechanical systems, including electrical and plumbing, are in such a state of disrepair that failure is imminent and the conditions cannot be resolved cost-effectively.
- ◆ The house has sewage or other sanitary problems that would further endanger the client and weatherization installers if weatherization work were performed.

- ◆ The house has been condemned or electrical, heating, plumbing, or other equipment has been “red tagged” by local or state building officials or utilities.
- ◆ Moisture problems have developed signs of mold.
- ◆ Dangerous conditions exist due to high carbon monoxide levels in combustion appliances, and cannot be resolved under existing health and safety measures.
- ◆ The client is uncooperative, abusive, or threatening to the crew, subcontractors, auditors, inspectors, or others who must work on or visit the house.
- ◆ The extent and condition of lead-based paint in the house would potentially create further health and safety hazards.
- ◆ Partial weatherization is not allowed by the program. Unforeseen circumstances may occasionally arise as the job is already in progress that may temporarily halt the work. In the event this happens, all pertinent information, pictures, and documents will need to be provided to MFA by the Sub-Grantee to determine the most reasonable course of action. Deferal of the job may be required until the problems noted have been resolved.
- ◆ If, in the judgment of the energy auditor, any condition exists which may endanger the health and/or safety of the work crew or subcontractor, the work should not proceed until the condition is corrected.
- ◆ The client refuses to allow agency to comply with ASHRAE 62.2 2016 by installing mechanical ventilation or other related measures.
- ◆ The client refuses to allow removal of primary unvented space heater or other dangerous appliances.

5. HEALTH & SAFETY DOCUMENTATION

CLIENT HEALTH AND SAFETY VERIFICATION

- a) Replacement of appliances such as heating systems and water heaters must have adequate justification and relationships to ECM measures **clearly** documented in the client file.
- b) Weatherization services must be provided in a manner that minimizes risk to clients.
- c) All client applications must include a field for clients to include suspected health and safety concerns.
- d) All Health and Safety Forms signed by the client must include a check box acknowledging that the weatherization work that will be performed will not worsen suspected health and safety concerns.
- e) Health and safety issues should be addressed as part of the client education process, both verbally and by distributing educational pamphlets during the audit "walk-through." This can be particularly effective as the auditor notices and discusses potential hazards.
- f) Dwellings with unvented (vent-free) combustion appliances used as a primary heat source, may not be weatherized until such appliances are properly vented to the outdoors (according to the appropriate code) or removed. Refer to Section 8430 and DOE Guidance 17-7 for more information.
- g) Building owners and clients must be notified of any health or safety problems that require deferring the weatherization work. Documentation of this notification must be included in the client file.
- h) It is preferred that Subgrantees minimize or restrict the use of materials that may be hazardous to the client.
- i) Special precautions must be taken if the occupant of the home has respiratory ailments, allergies, is pregnant, or has unique health concerns.
- j) Subgrantees should try to protect all clients from respirable particles, such as paint or insulation dust, during the weatherization process.
- k) Two part foam must be done in well ventilated areas.

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- l) Weatherization personnel shall not smoke cigarettes, cigars, or pipes in a client's home or outdoors within 25 feet of the client's home.
- m) If strong smelling chemicals, such as formaldehyde, are detected in the client's home, service provider should not perform any weatherization measures that would reduce the natural air leakage of the dwelling until the hazards are remedied.
- n) At a minimum, auditors and weatherization personnel should inform property owners of safety problems, code problems, and other health and safety issues. These items might include:
 - ◆ Hazardous levels of carbon monoxide.
 - ◆ Raw sewage leaking from waste plumbing pipes.
 - ◆ Mold and moisture.
 - ◆ Friable asbestos.
 - ◆ Radon gas.
 - ◆ Lead safe weatherization requirements.

HOMEOWNER CONSENT FORM

The Service Provider's Homeowner Consent Form is to be used to document existing potential health and safety problems that remain after the weatherization work is completed.

Clients must be informed of Health & Safety conditions in writing and the document must be signed by the client and a copy maintained in the client file. There may be instances when health and safety problems might remain after weatherization has been completed on a dwelling. These can include:

- ◆ Repairs relating to combustion appliances that are too extensive or costly for the New Mexico EnergySmart Program to remedy. An example is an aged, asbestos-covered boiler.
- ◆ Existing conditions in a dwelling that are beyond the control of the weatherization agency. Examples include the client use of unvented kerosene or gas space heaters, which meet the ANSI standards specified by DOE's 17-7 guidance, as a secondary heat source.

An agency representative must explain the problems to the owner, and in the case of a rental unit, the client.

- ◆ The health and safety problem(s) and corrective measures the owner and/or client can take must be documented on the form with as much detail as possible.

- ◆ The owner and agency representative must sign and date the statement.
- ◆ A copy of the form must be given to the client/owner.

INCIDENTAL REPAIRS

Incidental Repairs means those repairs necessary for the effective performance or preservation of weatherization materials. Such repairs include, but are not limited to structural repairs to the building envelope to maintain integrity of weatherization measures, door replacement, flue and venting replacement, dryer vents, furnace tune-ups, T and P for water heaters, fuel supply line repair, and modifications to allow for condensing furnace drainage. Health and safety measures may be listed as incidental repair only if the entire building still receives an SIR of 1. This decision may not be made in the field.

General heat waste measures are included in the energy audit as itemized costs. Incidental repairs are included in the per unit cost limitation and must be cost justified with the SIR for the package of measures.

Items that have the potential of receiving an SIR on their own such as doors, must be run as an ECM first. When the item is not cost effective, then it must be run under air sealing if it would normally be an incidental repair to air sealing. Otherwise, the item may be run as an incidental repair as long as the entire home receives an SIR above 1.

LEAD SAFE WEATHERIZATION

Lead Safe Weatherization (LSW) is different and separate from EPA RRP requirements. LSW curriculum is an additional hands-on training that follows RRP training. LSW Training is scheduled and LSW practices are part of the NM EnergySmart Technical Standards.

The NM EnergySmart Program approaches LSW compliance in both a proactive and reactive manner. In order to foster an atmosphere of compliance, the Program provides training for RRP and LSW for MFA technical staff in addition to NM EnergySmart staff.

Program staff will work with each agency to ensure the agency's internal policies and procedures comply with LSW, RRP and the NM EnergySmart Technical Standards. During Technical Committee Meetings, LSW practices in the field are discussed to ensure that all levels of weatherization workforce implement LSW.

Files are monitored for LSW compliance during the 5 percent to 10 percent unit inspection requirement and in progress inspections. If a unit is found to be out of LSW compliance either with file inspection or field inspection, the unit may not be eligible for reimbursement and proof of LSW will be required for future units reported.

Upon monitoring, unit inspection, or desk monitoring, if an agency is found to be out of compliance with LSW, the agency will receive an immediate monitoring finding. Clearance of this finding will require additional training that certifies staff competency with LSW. The agency may be liable to repay MFA for any funds used for the measure in question. In addition, MFA staff will follow up with field visits to determine compliance with LSW.

6. HEALTH & SAFETY MATRIX

See H & S Matrix attached.

7. USE OF DOE FUNDS FOR HEALTH & SAFETY MEASURES

NM EnergySmart uses the following method to determine when DOE monies will be used to remedy the health and safety issue, and how the Service Provider will treat problems that cannot be remedied with DOE monies after discovery.

- ◆ Replacement of appliances such as heating systems and water heaters must have adequate justification and relationships to ECM measures **clearly** documented in the client file.
- ◆ Subgrantee staff will identify existing and potential Health and Safety hazards that could be affected by weatherization activities during the energy audit process. The auditor should perform screening to identify health and safety issues and determine what steps will be taken to ensure that weatherization work will not worsen the health concern. These hazards are documented, including photographs, in the Energy Audit modeling report, and stored in the client file.
- ◆ If after referring to WPN 17-7, the SWS, and the Technical Standards, the Subgrantee is unsure whether the remedy of identified existing and potential hazard is an allowable NM EnergySmart activity, they will consult with the MFA to determine if the project should be deferred or if other funds will be used to solve the problem.
- ◆ Subgrantee will determine if addressing individual existing and potential hazards are mandatory, requires prior authorization from MFA or is at the discretion of the agency. As noted above, remaining Health & Safety issues not addressed with DOE funds must be noted on the homeowner consent form and provided to the client.
- ◆ Subgrantee staff will identify if the hazard should be mitigated before, during or after weatherization activities.
- ◆ Subgrantee staff will identify the responsible party for addressing each Health and Safety hazard (i.e., Subgrantee, the dwelling owner or client).

- ◆ Subgrantee staff will determine whether to proceed with weatherization, defer weatherization until the hazard is mitigated, or to walk away entirely. For deferrals or “walk away,” Subgrantee staff will refer clients to agencies that can address the issues leading to deferral or walk away.
- ◆ Subgrantee staff will provide written notification of the Health and Safety hazards to the owner/landlord in rental dwellings and to the client in both rental and owner-occupied dwellings. All information relevant to the hazard will be provided.

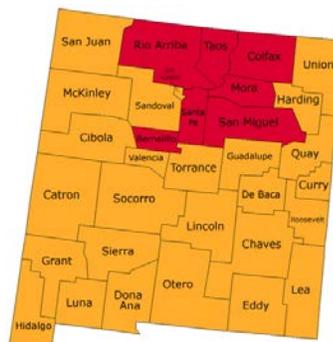
8. TRAINING FOR HEALTH & SAFETY COMPLIANCE

See H & S Matrix Attachment and listed in training section of State Plan

9. TESTING FOR HEALTH & SAFETY ISSUES

In addition to the SWS requirements, under the NM EnergySmart Technical Standards, health and safety assessments of the following must be performed:

- ◆ When life threatening hazards are observed or discovered upon testing, the crews must cease the testing, leave the premises, notify the clients and proper authorities immediately.
 - Documentation of the event, who was notified, and the response must be kept in the client file.
- ◆ The work may not continue until the problem is remedied and the testing can safely resume.
- ◆ Hazardous conditions and materials assessment, including, but not limited to:
 - Friable asbestos.
 - Unsafe levels of combustion byproducts, including carbon monoxide.
 - Human or animal waste within the occupied dwelling.
 - Unsafe and excessive levels of chipping and peeling lead paint in pre-1978 homes. This is of particular concern on interior surfaces and components.
 - Mold or mildew.
- ◆ In homes where radon may be present:
 - Provide the client with EPA’s consumer guide to radon.
 - PER SWS requirements, crawlspaces with exposed dirt must be covered with a vapor permeable ground cover. In dwellings where radon may be present, precautions should be taken to reduce the likelihood of making radon concentrations higher.
 - Radon mitigation is not allowed by DOE.



■ Zone 1 Highest Potential (greater than 4 pCi/L)
■ Zone 2 Moderate Potential (from 2 to 4 pCi/L)
■ Zone 3 Low Potential (less than 2 pCi/L)

- Radon testing is an allowable expense with justification but is not currently practiced or recommended.
- ◆ Air quality assessment, including:
 - Interviewing client(s) regarding health conditions of occupants with the intent of determining if air quality is unacceptable. [NM Radon Map](#)
 - Determination of ventilation needs for ensuring acceptable indoor air quality. Mechanical ventilation requirements shall be based on Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, ASHRAE Standard 62.2-2016.
- ◆ Combustion systems assessment, including:
 - Combustion safety testing, including worst-case depressurization spillage on all vented units, and carbon monoxide testing in appropriate dwellings before and after weatherization work. It is required that these worst-case depressurization testing be before the crew or contractor leaves the job site for the day.
 - Fuel storage and fuel distribution hazards, including oil tank or propane storage problems and oil, propane, and natural gas distribution line leaks.
 - Hazardous combustion appliance conditions.
 - Gas leak testing.
 - Testing protocols and action levels are listed in the Technical Standards.
- ◆ Lead paint tests will be conducted on all:
 - Pre-1978 homes
 - On or around areas where scope of work is intended
 - Documented clearly in the client file with photos and client signatures
 - Followed through with proper LBP work

10. ASHRAE 62.2 2016

All units must comply with ASHRAE 62.2 2016. Prior to work beginning and during the initial assessment, clients will first receive proper education as to why it is important for the home to have adequate ventilation. If after given ample opportunity to receive the services, the client refuses mechanical ventilation, and there are no other solutions that comply with ASHRAE 62.2 2016, then the deferral process will begin. Protocols have been incorporated into the following areas of the our training agenda:

- Energy audit process
- Air quality assessment
- ASHRAE 62.2
 - Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings shall be used for the installation of ventilation systems, both local ventilation and whole-building ventilation.

11. SMOKE AND CARBON MONOXIDE DETECTOR POLICY

CARBON MONOXIDE ALARMS

- ◆ Where operable units are not present at least one CO alarm must be installed outside of each sleeping area as stated in section two of the SWS. Following the manufacturer's recommendations for locating and installing the alarm. Typically, alarms are installed where the clients spend most time, such as near bedrooms. If an entire multifamily building is to receive weatherization services, a CO alarm should be installed in each unit of the complex.
 - Combustion appliances are defined as any piece of equipment (such as a water heater, cook stove, or heating system) that burns a fuel such as wood, kerosene, oil, natural gas, or propane.
 - Unvented space heaters are expressly prohibited in weatherized homes unless they are compliant with ANSIZ21.11.2 with an alarm system indicating high CO levels.

- ◆ All installed CO alarms must:
 - Be in compliance with NFPA 720
 - Be UL 2034 listed.
 - Have an electrochemical sensor with a 5-year warranty.
 - Be a plug-in type with a battery backup or battery operated units with a 5-year warranty.
 - Have a sensor life monitor that alarms after 5 years or at the expiration of the useful sensor life.
 - Have a digital LCD display.
 - Sample ambient air at least every 2 minutes.
 - Have an alarm of 85 decibels at 10 feet.
 - Be capable of displaying: the current CO level detected from 35ppm to 500 ppm CO, the peak level detected, the total time peak level was recorded.

- ◆ Customer education is a vital part of protecting households from the dangers of CO. Ensure that client education regarding the potential hazards of combustion appliances is delivered.

- ◆ The cost of the CO alarm or combination CO and smoke alarm is a health and safety material cost.

- ◆ Upon final inspection, the client will be interviewed and questioned on the usage of the alarm. Review by the final inspector will be necessary for clients that were not present during the initial installation or otherwise clients with unclear ideas of how the unit works.

- The unit cannot be reported as complete if there are no residents that understand how the alarm works and what to do in the event it were to sound an alarm.

SMOKE ALARMS

If smoke alarms are inoperable or non-existent, at least one alarm must be installed in each weatherized dwelling. If existing hard-wired smoke alarms are inoperable or broken, they must be replaced with comparable units.

- ◆ All smoke alarms must be in compliance with NFPA 72
- ◆ All smoke alarms must be in accordance with UL 217

12. Heating System Repair and Replacement Policy

HEATING SYSTEMS

- ◆ Solid fuel burning appliances must:
 - Adhere to local code including the venting
 - Include a CO alarm installed in the combustion zone
 - Client education and danger signs of what to do if the alarm were to sound
 - Worst case CAZ depressurization testing
 - Be simulated at 300 CFM for worst case testing of other appliances
 - Replacement is allowed for primary units but not secondary units
- ◆ Repair and replacement of inoperable or unsafe combustion appliances is allowed, including the installation of direct-vent, sealed combustion appliances.
 - Repair and cleaning should be done before replacement is considered.
 - Proper venting to the outdoors, including gas dryers is required.
 - Correction of venting is allowed when testing or visual inspection indicates a problem.
 - This may be listed under incidental repair when it meets the definition of WPN 12-9.
- No work is permitted if the completed unit's primary heat source is an unvented gas heater. Replacement with a vented unit is an allowable H & S expense.
 - Unit must be sized to heat entire dwelling unit. And comply with the audit requirements of 10 CFR 440.21 (e) (2)
- Secondary unvented units must conform to the safety standards of ANZI Z21.11.2, and must not have an input rating in excess of 40,000 Btu/hour.
 - Must not be located in ,or obtain combustion air from sleeping rooms, bathrooms, toilet rooms, or storage closets except:
 - One listed wall-mounted space heater in a bathroom or bedroom if permitted by the authority having jurisdiction and

- Does not have an input rating exceeding 6,000 Btu/hour for bathroom and not exceeding 10,000 Btu.hour for bedroom.
 - Equipped with an oxygen-depletion sensing safety shut-off system;
 - Bathroom or bedroom have adequate combustion air
- ◆ System repair, replacement, or installation is allowed of red-tagged, inoperable, or nonexistent heating systems in DOE climate zones 3, 4 and 5.
 - ◆ Building permits must be secured and other applicable building codes followed for all space heater work. This is considered a program operations cost per 17-7 Attachment A.

All fuel-burning appliances in mobile homes, except ranges, ovens, illuminating appliances, clothes dryers, solid fuel-burning fireplaces and solid fuel-burning stoves, must be installed to provide for the complete separation of the combustion system from the interior atmosphere of the manufactured home (i.e., to draw their combustion air from outside).

- ◆ Masonry Chimneys used by vented space heaters will be properly lined in compliance with the International Fuel Gas Code(IFGC). New equipment must meet local code requirements.

WATER HEATERS

- ◆ Water heaters that have failed combustion safety testing, draft testing, have improper installation should be repaired prior to replacement is considered. Replacement must include efficiency testing for evaluation of cost effectiveness as an energy saving measure prior to using health and safety funds. All water heater replacements using health and safety funds must include the following in the client file:
 - Combustion safety testing tickets or photos of tests
 - Photos of unsafe conditions and/or reasons for replacement
 - Documentation must justifying replacement with a cost comparison between replacement and repair.
 - Proof of tune and cleaning should be done before using Health and Safety funds for replacement.
 - Venting correction may be listed under incidental repair if the definition of WPN 12-9 is met.
 - Only mobile home approved water heaters are to be installed in mobile homes.

COOLING SYSTEMS

Air conditioning system replacement, repair, or installation is allowed in homes of at-risk occupants where climate conditions warrant. Climate Zone 3, has an average of 2425 Cooling degree days. In this climate zone, cooling replacement is allowed using health and safety funds for at risk clients plus anyone over the age of 60. For the other three climate zones, medical eligibility is required for any occupant unless the agency can prove climatic justification for an individual area that may be way above the average. For these cases, clients over the age of 60 will be eligible for cooling replacement.

At risk occupants are defined as an occupant that has respiratory ailments, allergies, pregnant, or other unique health concerns.

In addition, service providers must request prior authorization for installation or replacement of air conditioning system.

An example statement of medical eligibility:

Re: Air Conditioner Replacement or Installation

Name: _____, DOB: _____, age _____ years, is a patient under my care. S/he has a medical or psychiatric condition or takes medication that increases her/his risk for heat-related illness during a heat wave.

As her/his health care provider, I strongly advise that s/he use an air conditioner at home during a heat wave to prevent serious heat-related illness and possibly death. If you have any questions or concerns, please feel free to contact me.

(Signature of health care provider)

The cooling system must be run as an ECM first to determine if the unit is cost effective.

13. COMBUSTION GAS REMEDIATION PROCEDURES

With the integration of blower door technology and dense pack sidewall insulation, houses are being sealed tighter than ever before. In accordance with the "house-as-a-system" approach to weatherization, we recognize that there can be existing indoor air quality conditions that may be intensified by air sealing techniques.

REQUIRED COMBUSTION GAS TESTING PROCEDURES

- ◆ The following health and safety measures **must be performed on all combustion appliances** of weatherized homes. These are performed at the **assessment level**, work **in progress end of day**, and **quality control final** inspection.
- ◆ Homes may not be left in an unsafe condition due to appliance failure of any kind.
 - Measurement of **ambient carbon monoxide** concentrations should be done. If any ambient level of CO **above 9 ppm** is found, the source must be identified and the problem corrected.
 - The energy auditor should enter the dwelling with their CO measurement instrument running so that they can check the ambient CO concentration throughout the dwelling. An ambient air test for CO should be taken on coal, wood, unvented heaters and gas cook stoves.
 - A **CO test of undiluted flue gases** must be done on **all vented combustion appliances in worse case depressurization where applicable**. If a CO level **above 100 ppm** as measured is found in the undiluted flue gas sample, corrective action must be taken to reduce the CO to acceptable levels. If readings are detected above the minimum levels, no weatherization work is to be done until the problem is corrected.
 - A **gas leak detection test** must be taken on all natural and LP gas appliances and supply lines. All gas leaks must be repaired before any work is done. Oil supply lines and components must also be checked for leaks.
 - **Spillage** on all vented natural gas, LP gas and oil appliances must be performed under worst-case depressurization conditions to ensure an adequate venting.
 - An **inspection of the vent system** must be completed to ensure that the proper size and type of pipe is used, the condition of the vent pipe is satisfactory, the clearance meets applicable codes, and the vent system is unobstructed.
 - **Identify the combustion air source** and make sure it is unobstructed and sufficient, as defined by NFPA code.
- ◆ A detailed description of these tests can be found in Section 14 of the NM EnergySmart Technical Standards.
- ◆ The local agency is responsible for any potential health and safety problems that will be compounded if prescribed conservation measures are installed. For example, if a furnace is emitting unacceptable levels of CO, it is likely that tightening the home would increase the problem. Therefore, this problem must be fixed before any air sealing is completed.

REMEDIATION OF COMBUSTION APPLIANCES AND HEATING SYSTEMS

All operable units must include efficiency testing and included in the energy audit as an energy saving measure if cost effective. Appliances that receive an SIR greater than or equal to 1 will not be replaced using health and safety funding.

Repair and replacement of inoperable or unsafe heating systems and water heaters appliances is allowed, including the installation of direct-vent, sealed combustion appliances. Justification must be kept in the client file and provided upon request.

- ◆ Repair and cleaning should be done before replacement is considered.
- ◆ Testing for efficiency and cost effective evaluation must be performed to rule out whether or not the appliance is considered an energy saving measure.
- ◆ Proper venting to the outdoors, including gas dryers is required.
 - Correction of venting is allowed when testing or visual assessment indicates a problem.
 - Venting correction may be allowed under incidental repair when it meets the definition under WPN 12-9.
- ◆ System repair, replacement, or installation is allowed of red-tagged, inoperable, or nonexistent heating systems where climate conditions warrant.
- ◆ Proper disposal of appliances being replaced must be included and part of the health and safety costs.
- ◆ Justification for replacement and repair must be documented in the client file.

14. OSHA AND SDS

The NM EnergySmart Training and Technical Assistance Plan facilitates compliance with DOE Guidance 17-7, and SWS. Crew chiefs shall receive OSHA 30 training and other weatherization crews shall receive an augmented OSHA 30 or OSHA 10 program. Additional items included in "OSHA 10+" are included in the attached Health & Safety Matrix.

NM EnergySmart Technical Standards Section 4400 require each agency to maintain a Hazards Communication Plan, Safety Plan, Personal Protective Equipment Program and Tool Safety Program. In addition, each agency must have a designated "Health and Safety Officer." The Safety Officer is responsible for implementation and maintenance of the agency's Safety Plan and records of safety meetings, including materials covered and staff in attendance. The Safety Officer, through the agency's Safety Plan, will be responsible for the display of SDS sheets at weatherization job sites, warehouses and offices. The above is verified during the annual technical monitoring.

15. MOLD OR MOISTURE-RELATED ISSUES

REMEDIATION OF MOLD

The use of DOE funds for the removal of mold and other related biological substances is not an allowable weatherization expense. Generally, DOE funds should not be used to test, abate, remediate, purchase insurance, or alleviate existing mold conditions identified during the audit/estimate, the work performance period, or the quality control inspection. Other funding sources should be sought to cover the cost of cleaning moldy surfaces or the client can also be instructed in cleaning small covered surfaces. Excessive moisture can be a problem, therefore these common measures for dealing with potential moisture problems are allowed:

- ◆ Repair or installation of bathroom and kitchen exhaust fans compliant with ASHRAE 62.2 2016.
- ◆ Removal of unvented space heaters.
- ◆ Repair or installation of dryer vents to be properly vented to beyond the perimeter of the crawl space or basement.
- ◆ Installation of attic venting and crawl space venting, but only when appropriate.
- ◆ Replacement of downspouts and/or gutter sections to divert moisture away from the dwelling.

ENERGY RELATED MOLD AND MOISTURE

Moisture, mold, and mildew can seriously affect the health and safety of the client and crew. Steps must be taken to alleviate moisture problems. The New Mexico Weatherization Program shall ensure that regular weatherization work is performed in a manner that does not contribute to the increase of any mold problems and when the work is performed properly, can alleviate many mold conditions.

The Weatherization Assistance Program is not a mold remediation program. The use of DOE funds for the removal of mold and other related biological substances is not an allowable weatherization expense. If necessary, Weatherization Program services may need to be deferred until the existing mold problem can be corrected or referred to another agency for funding of remedial action.

All homes should be checked for previous or existing moisture problems.

- ◆ A moisture assessment must be conducted with special attention to the following signs:
 - Evidence of condensation on windows and walls indicated by stains or mold.

- Standing water, open sumps, open wells, dirt floors, water stains, etc. in basements or crawlspaces. Also, check to see if firewood is stored in the basement and whether laundry is hung to dry during the winter months.
 - Leaking supply or waste pipes.
 - Attic roof sheathing that shows signs of mold or mildew.
 - Active roof leaks.
 - Dryer fan and bath exhaust fan ducting that is nonexistent, damaged or constricted, too long, or not connected to outdoors.
 - Presence of unvented space heaters.
- ◆ Identification of existing or potential moisture problems shall be documented in the client file.
 - ◆ If existing moisture problems are found, no air sealing should be done unless the source of the moisture can be substantially reduced or mechanical ventilation can be added to cost-effectively remove the moisture. In some cases, air sealing must be done in order to reduce the source of the moisture (i.e., sealing off crawl spaces from the house, or sealing attic air leaks to eliminate condensation on the roof deck).
 - ◆ Because air tightening may cause an increase in relative humidity, client education should include information about moisture problems and possible solutions.
 - ◆ In the course of weatherization, any low-cost measures that help reduce the humidity levels in the house should be installed. Examples of these activities are venting dryers to the outdoors, venting existing bath or kitchen exhaust fans, or installing moisture barriers on dirt floors.

MITIGATION OF MOISTURE, MOLD OR MILDEW – DEFERRAL OF SERVICE

- ◆ If an existing moisture, mold or mildew problem is found, the agency must determine if the moisture problem can be fixed under the scope of weatherization or if there should be a deferral of service because of the severity of the problem (typically 10 square feet or more of affected surface).
 - If it is determined that the problems are too severe under the scope of weatherization, a Deferral of Service form shall be signed at the time of inspection and left with the client and a copy placed in the client file.
 - Client education must be given to the client to inform them of the health and safety problems associated with mold or mildew and the possible self-help solutions they can perform at a later date.
 - The agency should try to refer the client to other programs or agencies that may be able to assist in resolution of the problem.

MITIGATION OF MOISTURE, MOLD OR MILDEW – MITIGATION AS PART OF WEATHERIZATION

- ◆ Limited water damage repairs that can be addressed by weatherization workers and correction of moisture and mold creating conditions are allowed when necessary in order to weatherize the home and ensure the long term stability and durability of the measures. If an existing moisture, mold, or mildew problem is found and the agency determines that the job can be completed or cleaned when directly related to the scope work of the Weatherization Program, then:
 - The agency will have the client sign the Homeowner Consent Form informing the client of the existing problem(s), leaving a copy with the client and a copy in the client file.
 - Because air tightening may cause an increase in relative humidity, client education should include information about any adverse health effects if moisture problems are left untreated and also include possible solutions.
 - The agency will repair or eliminate the moisture problem and weatherize the dwelling in accordance with program regulations.
 - Containment of the work area is necessary and should be similar protocol that of LSW if the affected area is minor and the project will not be deferred. Vacating people from spaces adjacent to the work area is not necessary, but is recommended when children less than 12 months old are in the house. People suffering from any health conditions should be kept away from the area being cleaned.

MITIGATION OF MOISTURE SOURCES AS PART OF WEATHERIZATION

- ◆ In the course of weatherization, measures that help reduce the humidity levels in the house may be installed. Examples of these measures are venting dryers to the outside, venting existing bath or kitchen exhaust fans or installing moisture barriers on dirt floors. Repair of moisture problems that might 1) result in health problems for the client, 2) damage the structure over the short- or long-term, or 3) diminish the effectiveness of the weatherization measures, must be done before the weatherization job is completed.
- ◆ Moisture problems can be reduced or eliminated by controlling the source of the moisture. This can involve:
 - Venting dryers to the outside of the dwelling.
 - Sealing the foundation.
 - Providing positive drainage away from the foundation.
 - Repairing the roof, flashing, gutter, and downspouts.
 - Educating the client about the sources of moisture that they are able to control.

- Removal of unvented space heaters.
- ◆ Moisture problems can be reduced or eliminated by ventilating areas where excessive moisture is produced, such as bathrooms and kitchens. This should include installation of a high quality properly sized exhaust fan in the subject area and informing the client of the related moisture issues and the proper operation and use of the fan.

DRYER VENTS

- ◆ Electric and gas dryers must always be vented to the outdoors. This is an allowable H & S expense.
 - Dryer vent pipe should not be installed with sheet metal screws or other intrusive fasteners that will collect lint (according to NFPA 54).
- ◆ Extend mobile home dryer vents through the skirting to the outdoors. Dryer vent ductwork should be smooth-surfaced. No more than two 90° elbows may be used in the vent system, and the ductwork should not exceed 15 feet. If three 90° elbows are required, the total length of the vent may not exceed 10 feet. Alternately, the duct diameter can be upsized 1 or 2 inches.

16. RRP AND LSW

Each Service Provider must give notification to the occupants of homes to be weatherized regarding the potential hazards of lead paint and lead paint dust if the home was built prior to 1978. EPA's publication "Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools" must be given to an adult occupant of the affected home. For occupied homes, the weatherization staff, crew, or contractor must have an adult tenant or homeowner sign an acknowledgement after receiving the pamphlet. The pamphlet can also be sent by certified mail with receipt to be placed in the customer file.

Lead-Safe Weatherization (LSW) includes weatherization worker protection, general LSW work practice standards, and lead dust containment standards. Please refer to the latest weatherization program standard for details.

- ◆ Level 1 Containment. LESS THAN SIX(6) SQUARE FEET OF INTERIOR OR LESS THAN TWENTY(20) SQUARE FEET OF EXTERIOR WORK
 - Level 1 containment is required in pre-1978 homes when less than 6 square feet of interior painted surface per room or 20 square feet of exterior painted surface will be disturbed.

- Level 1 containment consists of methods that prevent dust generation and contains all debris generated during the work process. The containment establishes the work area which must be kept secure.
- Measures that may fall within this guideline include:
 - Installing or replacing a thermostat.
 - Drilling and patching test holes.
 - Replacing HEPA filters and cleaning HEPA vacuums.
 - Changing furnace filter.
 - Removing caulk or window putty (interior).
 - Removing caulk or window putty (exterior).
 - Removing weatherstripping.
- ◆ Level 2 Containment. MORE THAN OR EQUAL TO SIX(6) SQUARE FEET OR MORE THAN OR EQUAL TO TWENTY(20) SQUARE FEET OF EXTERIOR WORK
 - Level 2 containment is required when Weatherization activities will disturb equal to or more than 6 square feet of interior surface per room or equal to or more than 20 square of exterior surfaces in homes built prior to 1978. Level 2 containment consists of methods that define a work area that will not allow any dust or debris from work area to spread. Level 2 containment requires the covering of all horizontal surfaces, constructing barrier walls, sealing doorways, covering HVAC registers with approved materials, and closing windows to prevent the spread of dust and debris.
 - Measures requiring level 2 containment other than areas that are equal to or more than 6 square of interior surface per room or equal to or more than 20 square of exterior surfaces may include:
 - Drilling holes in interior walls.
 - Drilling holes in exterior walls, removing painted siding.
 - Cutting attic access into ceiling or knee walls.
 - Planing a door in place.
 - Replacing door jambs and thresholds.
 - Replacing windows or doors.
 - Furnace replacements.
 - Additionally, Level 2 containment must ALWAYS be used where any of the following is conducted (even if the activities will disturb less than the hazard levels of 6 square feet of interior or 12 square feet of exterior surfaces within the Level 1 category):
 - Window replacement.
 - Demolition of painted surface areas.
 - Using any of the following: Open-flame burning or torching; machines to remove paint through high-speed operation without HEPA exhaust control; or operating a heat gun at temperatures at

or above 1100 FO. Note that the use of a drill, reciprocating saw, or other power tool is considered a “machine” for removing paint. As examples: Cutting an attic hatch inside the dwelling or interior drilling of holes for the installation of insulation require level two containment.

- ◆ There must be adequate documentation in the client file to demonstrate that lead safe weatherization measures were performed when necessary. Documentation should include photos of the site and containment set up, as well as a listing of materials used and measures taken. The final inspector for each unit must also certify that LSW procedures were used and properly implemented.
- ◆ New Mexico Weatherization will adhere to EPA lead safe rules as written in the “Lead; Renovation, Repair, and Painting Program” Final Rule (LRRPP Final Rule), as directed by DOE.
- ◆ Weatherization of HUD program housing stock, including HUD Section 8, is infrequent in New Mexico. These units will only be weatherized if HUD will provide certification that abatement or control of any lead paint hazard has been addressed, and will agree that the local agency will not be liable for any lead hazards, provided the safe work practices generally outlined above are employed.
- ◆ In cases where the subgrantee cannot safely weatherize a home due to lead paint hazards, the subgrantee may defer the work. Such deferral will be considered by the state on a case-by-case basis.

Service Providers may not weatherize dwellings where there are cases of documented or suspected lead poisoning. Additionally, they shall not weatherize homes where there is an extraordinary lead paint hazard and there are no means to abate the hazard, including insufficient funds or insufficient training to properly address the hazard.