



# DOE FUNDED WEATHERIZATION

## 2015 PRIORITY LIST NORTHERN NEVADA

**All of the measures below are to be installed in accordance with the Weatherization Field Manual. The measures should be installed in the sequence listed, unless otherwise approved by NHD and documented in the file. All HVAC system replacements and complete duct system replacements require REM Design to determine SIR.**

### 1. Health and Safety Activities

- a. Diagnostic Testing (ASHRAE 62.2, Blower Door, CAS Testing, etc )
- b. Primary Heating System—Repair or Replace with a minimum 90 AFUE system if unit is inoperable or unsafe based on HVAC evaluation. If unit is non-existent it may be replaced for at risk occupants only. (refer to H&S Plan)
- c. Repair/replace Gas Water Heater (CAS Failure only)
- d. Repair Gas Cooking Appliances (CAS Failure only). **(Replacement is not allowable with DOE funds, repairs are allowable or other funds should be used for this measure when possible)**
- e. Replace damper and/or exhaust fan(s) when inoperable
- f. CO Alarms (Maximum 2 per dwelling)

**In addition to the above, install the following measures based on housing type:**

### Single Family

2. Duct Sealing up to a maximum cost of \$750
3. Duct Insulation
  - a. Insulate to R-8 only if ducts are non insulated and in unconditioned space
4. Shell Sealing up to a maximum cost of \$750

Primary Heating Type	Maximum Cost per 100CFM50 Reduction
Natural Gas	\$80.00
Electric Furnace	\$100.00
Propane	\$200.00

5. Attic Insulation
  - a. If existing insulation is R-19 or less, increase to R-38 with cellulose
6. Sidewall Insulation
  - a. Dense-pack the un-insulated sidewalls to R-15 with cellulose
7. Floor Insulation
  - a. If no floor insulation exists install R-19 per chapter 18 of NHD field manual.
8. Water heater blanket
  - a. Install only if water heater is located in unconditioned space



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9. Low flow shower heads (2 maximum)
10. CFLs (5 Maximum and only if replacing incandescent bulbs)
  - a. If existing lighting is incandescent and in use for 2 hours per day or more
11. Water Heater Pipe Insulation
  - a. Must be in unconditioned space
12. Refrigerator Replacement utilizing the WAPTAC refrigerator calculator or if not listed, then use the default chart attached.
  
13. Install Heat Pump Water Heater only for propane and electric
  - a. Cost not to exceed \$2600
  - b. EF  $\geq$  2.3
  - c. 3 or more occupants required

### **Mobile Home:**

2. Duct Sealing up to a maximum cost of \$750
3. Shell Sealing up to a maximum cost of \$750

<b>Primary Heating Type</b>	<b>Maximum Cost per 100CFM50 Reduction</b>
Electric Furnace	\$75.00
Gas	\$94.00
Propane	\$75.00

4. Belly Insulation
  - a. If existing belly is R-7 or less, blow in belly cavity to R-19 with loose fiberglass
5. Ceiling Insulation
  - a. Blow ceiling cavity to R-19 with loose fiberglass
6. Wall Insulation
  - a. If existing wall is R3.5 or less, blow wall cavity to R-15 with loose fiberglass
7. Water heater blanket
  - a. Install only if water heater is located in unconditioned space
8. Dual pane Low-E Windows
  - a. Windows must be at least .30 U-factor and .30 SHGC.
9. CFLs (5 Maximum and only if replacing incandescent bulbs)
  - a. If existing lighting is incandescent and in use for 2 hrs per day or more
10. Refrigerator Replacement utilizing the WAPTAC refrigerator calculator or if not listed, then use the default chart attached.
11. Install Heat Pump Water Heater only for propane and electric water heaters
  - a. Cost not to exceed \$2600
  - b. EF  $\geq$  2.3
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12. Water Heater Pipe Insulation
  - a. Must be in unconditioned space

#### **Multi-Family (≥5 units):**

All Multi-Family buildings require a whole Building Performance Audit (REM) for any conservation measures. DOE Health and safety concerns must be addressed prior to the installation of any conservation measures.

**Dwellings that have characteristics that differ from the modeling assumptions listed below require a REM Design audit and measures prioritized according to SIR.**

#### **Modeling Assumptions:**

- Priority lists created using the assumptions for frame built homes modeled in REM Design
- Climates zones are from 2009 International Energy Conservation Code

#### **Frame Homes:**

- <2000 Square Feet raised floor construction
- No Attic Insulation
- Un-insulated 2x4 Stud Wall
- Windows are 15% of Wall Surface Area
- Single Pane, Aluminum Windows – U-value = 1.10, SHGC = 0.80
- Air Infiltration = 3000 CFM@50Pa.
- 68 AFUE furnace, 6.8 SEER Air conditioner

#### **Mobile Homes:**

- <1000 Square Feet for Single Wide and <2000 Square Feet for Double Wide
- No Attic Insulation
- Windows are 15% of Wall Surface Area
- Single Pane, Aluminum Windows – U-value = 1.10, SHGC = 0.80
- Un-insulated Walls – U-value = 0.371
- Air Infiltration = 3000 CFM@50Pa
- 68 AFUE furnace, 6.8 SEER Air conditioner



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#### Refrigerator Replacement Default Chart:

Annual kWh/yr Existing Unit	Max. Replacement Cost by Annual kWh/yr of New Refrigerator		
	400 kWh/yr	500 kWh/yr	600 kWh/yr
<b>800</b>	\$750	\$600	\$450
<b>900</b>	\$900	\$750	\$600
<b>1000</b>	\$1,050	\$900	\$750
<b>1100</b>	\$1,200	\$1,050	\$900
<b>1200</b>	\$1,350	\$1,200	\$1,050
<b>1300</b>	\$1,500	\$1,350	\$1,200
<b>1400+</b>	\$1,660	\$1,500	\$1,350

Rental Units: All rental units; Single family, 2-4 units, mobile homes and 5+ require a 50% owner contribution for all capital improvements. (See Grant Award Financial Assurance, Item 17.)