

# Memorandum

DATE: January 9, 2023  
REPLY TO:  
ATTN OF: EE-5W

SUBJECT: Approval of the Territory of Guam Energy Audit Procedures for Site-Built Single Family, Manufactured Housing, & Low Rise Multifamily Housing for the Weatherization Assistance Program – Adopting Regional Priority List

TO: Tawanna Holloway & Amy Klusmeier, Project Officers, Weatherization Assistance Program, U.S. Department of Energy

EFFECTIVE: 1/9/2023

To ensure that energy audit procedures of sufficient technical rigor are used in the U.S. Department of Energy’s (DOE’s) Weatherization Assistance Program (WAP), Grantees must submit their energy audit procedures to DOE for approval every five years for review and approval in alignment with [§440.21 and Weatherization Program Notice \(WPN\) 19-4](#).

Based on review of the submitted material, Guam’s Energy Audit Tool and/or Priority List and their procedures are approved as follows:

<b>Tool</b>	<b>Building Type</b>	<b>Comments</b>	<b>Expiration Date</b>
Priority List	Site-Built Housing (SBH) (1-4 Units)	See Table 2 and Attachment 1	1/9/2028
Priority List	Manufactured Housing (MH)	See Table 2 and Attachment 1	1/9/2028
Priority List	Small Multifamily (SMF) (5-24 Units)	See Table 2 and Attachment 1	1/9/2028
N/A	Large Multifamily (LMF) (25+ Units)	Grantee has no DOE LMF audit approval.	N/A

<b>Table 2 – Priority List Approvals</b>		
<b>Building Type</b>	<b>Housing Characteristics That Priority List Applies To</b>	<b>Expiration Date</b>
Site-Built Housing (SBH) (1-4 Units)	Building type must be included in DOE-approved annual plan.	1/9/2028
Manufactured Housing (MH)	Building type must be included in DOE-approved annual plan.	1/9/2028
Small Multifamily (SMF) (5-24 Units)	Building type must be included in DOE-approved annual plan.	1/9/2028
Large Multifamily (LMF) (25+ Units)	Grantee has no DOE-approved PL for LMF and must seek case-by-case approval for any project in buildings larger of 25 units or more.	N/A

Per the procedure allowed by [10 CFR 440.21b](#) and set forth in WPN 19-4 the following materials/audit procedures have been approved for use in Guam’s program in addition to those allowed by [10 CFR 440 Appendix A](#):

<b>Table 3 - Special Materials/Audit Procedures Approvals</b>	
<b>Item</b>	<b>Comments</b>
Solar Thermal Water Heaters	Approved by this Memo
Advanced Power Strips	Approved by this Memo
Refrigerators	Approved 5/25/2017
Heat Pump Water Heaters	Approved 5/25/2017
Light Emitting Diode (LED) Lighting	Approved 5/25/2017
Compact Fluorescent (CFL) Lighting	Approved 5/25/2017
Low-Flow Aerators/Showerheads	Approved 5/25/2017

Per the procedure allowed by [10 CFR 440.20](#) and set forth in WPN 19-4 the following General Heat Waste Reduction measures are approved for use in Guam’s program, not to exceed \$250 in total costs:

<b>Table 4 – Approved General Heat Waste Measures</b>	
<b>Item</b>	<b>Comments</b>
Grantee uses only a priority list, therefore no specific GHW measures need approval as Energy Conservation Measures.	

The following conditions apply to these audit approvals:

<b>Table 5 - Approval Conditions</b>	
<b>Building Type (SBH, MH, SMF, LMF)</b>	<b>Conditions Explanation</b>
N/A	N/A

**This approval of the Territory of Guam energy audit procedures (Energy Audit Tool and/or Priority List) expires on the dates outlined in Tables 1 and 2 above.** As of the effective date of this memo, all previous energy audit or priority list approvals for these housing type(s) are no longer valid. The Grantee must submit its energy audit procedures to DOE for reapproval at least 6 months prior to their expiration date.

Please forward this memorandum to the Grantee agency and answer any questions they may have concerning its contents.

**Derek J. Schroeder** Digitally signed by  
Derek J. Schroeder  
Date: 2023.01.09  
16:27:53 -05'00'

Derek J. Schroeder  
Acting Weatherization Assistance Program Manager  
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*Attachment 1 – DOE-Approved Priority List for Guam*

***Attachment 1 – DOE-Approved Priority List for Guam***

# Guam Priority List

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## Definitions

*Applicable Measure:* Any measure included on the regional priority list that can physically be installed as outlined in the priority list and does not already exist (e.g., the attic is accessible and has less than the targeted R-value of insulation existing, then insulating the attic is applicable and must be installed). Any measure deemed not to be “applicable” for the project, must be thoroughly documented including photos and reason for exclusion.

*Optional Measure:* Any measure included on the regional priority list that is labeled as “optional” and may be installed in the dwelling unit with any funding source, including DOE WAP funds, if all other applicable mandatory measures are also installed.

*Mandatory Measure:* Any measure included on the regional priority list that is labeled as “mandatory” and is applicable to the project. These measures must be installed if any DOE funds are to be used on the project.

*A/C:* Air Conditioner is a system that utilizes a refrigerant cycle to produce cooling and dehumidification for indoor spaces. They are rated in various manners depending on the age and type including EER, SEER, and CEER. The higher the number the higher the efficiency.

*AFUE:* Annualized Fuel Utilization Efficiency is a rating for fossil fuel combustion appliances that accounts for the full combustion cycle over the entire year which may include pilot light and chimney heat loss. The higher the number the higher the efficiency.

*SEER:* Seasonal Energy Efficiency Rating is a rating used for split system air conditioners that factors in the seasonal operating conditions of the unit in the calculation of cooling efficiency. The higher the number the higher the efficiency.

*HSPF:* Heating Season Performance Factor is a rating used for heat pump technology that factors in the seasonal outdoor operating conditions in the calculation of heating efficiency. The higher the number the higher the efficiency.

*COP:* Coefficient of Performance is a rating used for heat pump technology that focuses specifically on the heating capacity of the unit at a given steady state outdoor temperature. The higher the number the higher the efficiency.

*CEER:* Combined Energy Efficiency Rating is a rating used for packaged or window air conditioners that includes both the operational energy used during the cooling cycle and the standby energy used by the unit when powered on but not operating. The higher the number the higher the efficiency.

*EER:* Energy Efficiency Rating is a rating used for packaged or window air conditioners that only includes the operational energy used by the unit for cooling but does not include the standby energy as is rated using the CEER method. This method has been replaced with CEER for newer appliance models. The higher the number the higher the efficiency.

*PTAC:* Packaged Terminal Air Conditioners are standalone heating/cooling appliances that are used to condition an individual room or small dwelling unit and are installed on an exterior wall with both the condenser and evaporator as well as the air circulation fans all confined in a single unit. These may feature either electric resistance heat or heat pump technology for heating.

*EC Motors:* Electronically Commutated Motors are motors who utilize DC voltage for operations and are variable speed based on DC voltage input. These motors transform AC voltage to DC voltage internally for the operation of the attached motor.

## Procedures

These PLs apply to any DOE WAP eligible dwelling that meets the following checklist:

1. Building type is included in approved in DOE plan.
2. Job will not exceed **\$500** in incidental repairs meeting the definition outlined in [WAP WPN 19-5](#)

Grantees utilizing these PLs with any DOE funds must install all required Health and Safety (H&S) measures per the Grantee's DOE-approved H&S plan. If the PL is applied to a project using any DOE funds, then any measure listed as "mandatory" may only be skipped if it is physically impossible to install, regardless of funding source used for the measure. If another funding source is used for a mandatory measure, it must meet the requirements of the DOE WAP as outlined in the PL. "Optional" measures may only be installed if all other applicable mandatory measures are installed as well.

ACPU expenditure of financial assistance provided under WAP for labor, weatherization materials, and related matters cannot exceed the Average Cost Per Unit (ACPU) limits as defined in DOE's annual Weatherization Program Notice (WPN) XX-1. All installation costs must be procured in compliance with [2 CFR 200](#) and Grantee's procurement policies. Individual measure cost caps, if applicable, are detailed in the Priority List.

## Regional Priority List – Guam

1. Mandatory: Install all applicable Health and Safety (H&S) measures per the Grantee’s DOE-approved H&S Plan.
2. Required: Light Emitting Diode (LED) lighting replacement of all existing screw-based incandescent, halogen, compact fluorescent lighting, or pin-based fluorescent tube lighting used for a minimum of one hour per day.
  - a. [Lighting Replacement SWS](#)
3. Required: Replace up to (1) refrigerator per home, with a label rating of less than 450kWh/yr and maximum installed cost of **\$2,000** per unit when the existing refrigerator:
  - a. Was manufactured before 2001, OR
  - b. Uses >800 kWh/yr based upon energy use metering or industry accepted resource.
    - i. [Refrigerator Replacement SWS](#)
    - ii. Documentation of existing refrigerator data tag must be included in the client file
4. Optional: Install low-flow showerheads and faucet aerators in all applicable locations in the home.
  - a. Faucet aerators ( $\leq 2.2$  GPM) – [Low-Flow Devices SWS](#)
  - b. Showerhead ( $\leq 2.5$  GPM) - [Low-Flow Devices SWS](#)
5. Optional: Tier 2 Advanced Power Strip (APS) devices are primarily designed to address both passive and active standby power targeted for home entertainment and PC (personal computer) environments. Two types of devices are allowed:
  - i. Motion sensing power strips that shut off power to controlled devices when no motion is detected for a set period of time regardless of the level of power draw; and
  - ii. IR sensing strips that shut off power to controlled devices when no IR signal is detected for a set period of time regardless of the level of power draw.
  - b. Devices must consume less than 1W, have a one-year warranty, provide warranty for connected devices, provide surge protection to 740 joules, be UL 1449 and 1362 listed, be rated for 15 amps, and have a resettable circuit breaker.
  - c. Master/peripheral load sensing strip must have at least 3 connected device outlets and include adjustable sensitivity.
  - d. Direct-installed strips must disconnect power to at least 2 controlled devices.
  - e. Annual electricity saving of 157 kWh per device are expected.
  - f. Households should not receive more than two devices per home.
  - g. Devices shall not cost more than **\$75.00** to purchase and install.
6. Optional: Air-Conditioning System Replacements
  - a. [Heating & Cooling: Equipment Installation SWS](#)
  - b. Window/Room AC replacements –
    - i. Replace existing window/room air conditioners manufactured before 2014, or with an EER of 9.7 or lower, with a minimum of 12 CEER or higher unit of the same or lesser capacity. Documentation of existing unit data tag must be included in the client file.
    - ii. Replace existing window/room air conditioners larger than 12,000 btu and manufactured before 2014, or with an EER of 9.7 or lower with a new ductless mini-split rated for a minimum SEER of 19 of the same or lesser capacity.
  - c. Ductless Mini-Split replacements –
    - i. Replace existing ductless air conditioners (i.e., room air conditioners or mini-splits) manufactured before 2014, or with an EER or 10.1 (11.5 SEER) or lower with a new ductless mini-split rated for a minimum SEER of 19 of the same or lesser capacity.
7. Optional: Heat Pump Water Heater
8. Optional: Solar Hot Water Heater

### Hybrid Heat Pump Water Heater or Solar Water Heater Installation –

- **Use the DOE-approved Water Heater Savings Calculator** to determine allowable cost and SIRs for replacing the existing system with either a hybrid heat pump water heater or solar water heater. The replacement system showing the highest SIR must be installed.
- The auditor must print the calculated comparison and save a copy in the client file.



- Cost must include all necessary incidental construction (i.e. sheds or platforms), delivery and disposal.
- In the instance where the Water Heater Savings Calculator indicates fuel switching as the most cost-effective for a household, fuel switching shall be allowed.
  1. Heat Pump Water Heater – Electric
    - a. HPWH Space Requirements Checklist
    - b. Does the room meet the volume requirements of the unit?
    - c. Are the ceilings high enough to accommodate the extra height of the HPWH?
    - d. Is there adequate space to allow maintenance of the heat pump components?
    - e. Can the HPWH be placed in the room such that there is sufficient clearance for airflow around the unit?
    - f. Is there enough clearance for removal and cleaning of the air filter?
    - g. Is the floor able to support the additional weight of the HPWH?
  2. Solar Water Heaters – Electric or Propane Fueled
    - a. Installations must be sized according to “Residential Solar System Sizing Verification”, which uses a 20 gal/person standard.
    - b. Installations must pass Grantee inspection standards. For example, see the [“Hawaii Energy Efficiency Program’s Water Heater System Inspection Check List.”](#)