

Memorandum

DATE: March 17, 2021
REPLY TO:
ATTN OF: EE-5W
SUBJECT: Revised Approval of Guam's Priority List for Site-Built Single Family, Manufactured, and Small Multifamily Housing for the Weatherization Assistance Program
TO: Tawanna Holloway & Amy Klusmeier, Project Officers, Weatherization Assistance Program, U.S. Department of Energy

EFFECTIVE: 3/4/2020

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. DOE approval of Guam's energy auditing procedures expires on the dates noted below in Table 1.

As with previous audit procedure approvals, Guam requested DOE assistance to review, verify, and approve an updated priority list for Site-Built Single Family, Manufactured, and Small Multifamily housing. To facilitate this review, Guam provided measure details, measure costs, fuel prices, and information on building stock. The priority list was reviewed in accordance with [WPN 19-4](#) and was found to comply with [§440.21](#) of the final rule. Based on this review, Guam's energy audit procedures are approved as follows:

Tool	Building Type	Comments	Expiration Date
Priority List	Site-Built Housing (SBH) (1-4 Units)	See Attachment 1 and Table 2	3/4/2025
Priority List	Manufactured Housing (MH)	See Attachment 1 and Table 2	3/4/2025
Priority List	Small Multifamily (SMF) (5-24 Units)	See Attachment 1 and Table 2 Buildings must be 3 stories or less with no existing heating/cooling units except window A/C units	3/4/2025
N/A	Large Multifamily (LMF) (25+ Units)	Guam has no LMF audit approval. All other MF projects must be approved specifically by DOE.	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](#):

Table 2 - Special Materials/Audit Procedures Approvals	
Item	Comments
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

This approval of Guam's energy audit procedures expires on the dates outlined in Table 1 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.

Erica Burrin

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Attachment 1 – Guam's DOE-Approved Priority List

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Single Family, Manufactured, and Small Multifamily Housing – 3/4/2020

1. Low-Flow Showerheads & Faucet Aerators

2. LEDs & CFLs

Replace incandescent bulbs used more than one to two hours per day with LED or CFL lamps. Maintain or moderately improve existing lighting levels (lumens), while minimizing wattage. Choose the highest efficacy (lumens per watt) bulbs. Be sure to install bulbs that are suitable replacement bulbs, i.e.: dimmable LED/CFL's in fixtures controlled by dimmer switches; outdoor bulbs in exposed outdoor fixtures; enclosed globes; appropriate orientation (base upright/downwards).

Existing Incandescent Wattage to Replace	New LED Lamp Wattage	Maximum Cost per Lamp
40 – 75 W	5 – 13 W	\$ 10
75 – 100 W	13 – 20 W	\$ 15
150W +	20 – 25 W	\$ 20

*Existing CFLs cannot be replaced with LED lamps.

3. Heat Pump Water Heater

- Household must have a minimum of 3 occupants
- Replace only electric resistance water heaters
- New units must have an Energy Factor (EF) of 3.0 or higher
- Cost is limited to **\$1,850**

4. Small Room Air Conditioner (10-15,000 Btu/h cooling capacity) Replacement

- Replacement units must be the same size, or smaller, as existing
- Existing units with an EER of 9.8 (11.2 SEER) or less are eligible for replacement
- New units must have a minimum EER of 12 (13.7 SEER)
- Minimum usage must be at least 8 hours per day
- Cost is limited to **\$650**

5. Very Small Room Air Conditioner (6-9,999 Btu/h cooling capacity) Replacement

- Replacement units must be the same size, or smaller, as existing
- Existing units with an EER of 9.7 (11.1 SEER) or less are eligible for replacement
- New units must have a minimum EER of 12 (13.7 SEER)
- Minimum usage must be at least 8 hours per day
- Cost is limited to **\$500**

6. Refrigerator Replacement

Replace refrigerator with energy-efficient model if testing shows annual consumption is high enough to justify measure cost. Estimate annual electricity consumption by metering or locate usage in a database. When metering, a minimum 2-hour test shall be done. If the existing refrigerator uses more electricity than the minimum use threshold below, it can be replaced with a new unit.

Refrigerator Size	Minimum kWh / 2 Hour (if metering)	Minimum Annual kWh to Qualify for Replacement (if using database) [kWh/yr]	Maximum Cost
15 cu. ft. or less	.18	788	\$700
16 - 19 cu. ft.	.20	876	\$900
20 - 24 cu. ft.	.22	964	\$1,100
25 cu. ft. or larger	.28	1,266	\$1,600

Existing Refrigerator and Freezer Testing

kWh Guidelines for Replacement: In order to meet the daily minimum guidelines for replacement, the kWh's must reach the Minimum kWh/2 Hour listed above by the end of two hours of metering.

If the unit is cooling to a temperature that is too low (wasteful), you may adjust the temperature. Set freezer temperature between 0 degrees and 5 degrees and refrigerator temperature between 38 degrees and 40 degrees.

If the client uses more than one refrigerator and all qualify to be replaced, encourage the client to allow for the removal of both refrigerators. The new refrigerators can be larger than the replaced refrigerators so long as it accommodates the household's needs and can physically fit in the home. Always attempt to reduce the number of refrigeration units (refrigerators and freezers) in the home. The Energy Auditor/Educator must show the customer a picture of the new refrigerator, measure to ensure the new refrigerator will fit in the client's home, and have the client sign off on the audit form.

Cost must include purchase, delivery and installation of the new refrigerator, and removal and environmentally responsible de-manufacturing of the old unit.

Replacement should be determined by using Energy Star guides and formulas designed for Guam that takes into consideration ambient temperatures.

Best practices for testing refrigerators include:

- If you interrupt a compressor cycle, wait 8 minutes before plugging it back in
- If door is closed and you still have wattage showing on the meter, perhaps the door switch is broken or the anti-sweat heater is running
- The usual running range (compressor on) is 200-400 Watts. Newer refrigerators draw about 150 Watts
- Watch for defrost periods (~400 Watts)
- Unplug a refrigerator to clean the coils

- Adjust the meter reading for ambient room temperatures (procedure to follow)
- Record the temperature inside the fresh food compartment and the freezer compartment
 - a. New units cannot have through-the-door water/ice service
 - b. Required to meter at least 10% of units
 - c. Replaced refrigerators must be recycled and refrigerant reclaimed

7. Mini-Split Air Conditioner Replacement

- a. Replacement units must be the same size, or smaller, as existing
- b. Existing units with an EER of 10.1 (11.5 SEER) or lower are eligible for replacement
- c. New units must have a minimum EER of 13.4 (15.3 SEER)
- d. Minimum usage must be at least 8 hours per day
- e. Cost is limited to
 - i. **\$1,000** for units with 9,000 Btu/h cooling capacity
 - ii. **\$1,250** for units with 12,000 Btu/h cooling capacity