

Weatherization Program Notice (WPN) 19-4

Energy Audit Frequently Asked Questions (FAQ)

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GENERAL ENERGY AUDIT SUBMITTALS

Q. Where must the “sample audits” for the energy audit submittal be taken from? Can they be generated by the Grantee or training center for the submittal?

- A. The “sample audits” required by [WPN 19-4](#), must come from actual Subgrantee jobs from the most recent Program Year and contain the original energy audit information as input by the Subgrantee auditor. These energy audits must reflect a variety of fuel sources, house types, climate zones, and be drawn from multiple Subgrantees across the Grantee’s network. These energy audits must not be altered or changed prior to submittal by the Grantee, they must reflect the actual inputs and results of the Subgrantee auditor’s analysis. These sample audits are for the purpose of determining how the energy audit is being used in the field and as such need to be actual production units. These energy audits should utilize DOE WAP funding if possible. If a Grantee is unable to supply the requisite sample energy audits as outlined here, such as when transitioning to a new energy audit tool, they should discuss alternate solutions with their Project Officer prior to their submittal deadline.

Q. The energy audit tool submittal requirements include a requirement that written guidance be provided for “...audit software data entry...”. Will the generic user’s manual for the software be sufficient to meet this requirement?

- A. No, the generic user’s manual is not sufficient to meet this requirement. [WPN 15-4](#), requires Grantees to provide their Subgrantee network with “...technical requirements for field work including: audits/testing...”. This means that the Grantee must provide specific instructions that detail how the auditor is to collect and enter data into the energy auditing software in compliance with federal regulation, DOE guidance, and Grantee policy. Some areas of particular note are: how to address non-working HVAC systems, duct sealing cost effective analysis and verification, infiltration target selection, derating of heat pump or air conditioning systems, default U and R-values for insulation or window/door inputs, shading values for windows/doors, etc.

Q. If a Grantee receives a new energy audit approval prior to the expiration of their current energy audit approval will the approval date be adjusted accordingly?

- A. [10 CFR 440.21\(a\)](#) requires energy audits to be re-approved by DOE every five years. All newly issued energy audit approvals have an “effective date” that aligns with the end of the previous energy audit approval so that Grantees are not penalized for on-time submittal. From the effective date of the new approval, all previous approvals for that housing type are void and only the energy audit processes listed in the new energy audit approval memo may be used by the Grantee. If a Grantee prefers an earlier effective date, such as when switching energy audit tools outside of the normal cycle, this must be requested during the energy audit submittal process.

Q. The costs of measure installations or fuels have changed since the Grantee’s most recent energy audit approval. Does the Grantee need to request DOE approval to alter the costs used in the evaluation of energy conservation measures?

- A. *Site Specific Energy Audits* – If a Grantee is using only site-specific energy audits to determine cost-effectiveness of measures, and accurate fuel costs and measure installation costs are used in the evaluation there is no need to request DOE approval to adjust these prices. [2 CFR 200.323\(a\)](#) requires that Grantees “perform a cost or price analysis” in connection with the start of all new contracts, so at minimum a Grantee must evaluate whether cost adjustments are necessary annually, but more frequent evaluation may be necessary if prices are fluctuating more rapidly. Any changes in the costs used to evaluate cost-effectiveness of Weatherization installations must be documented and justified as part of the Grantee’s procurement policies.
- A. *Priority Lists* - If the Grantee is using a Priority List (PL), then changes in fuel pricing or installation costs may affect the measures and their location on the PL. The Grantee must have written policy in place that quantifies the change that triggers a re-evaluation of the PL and defines how this evaluation is performed. Anytime the Grantee must adjust the priority or associated cost of a measure on a PL, they must submit the request to DOE for approval along with sufficient justification. This does not preclude the requirement of [2 CFR 200.323\(a\)](#) that Grantees “perform a cost or price analysis” in connection with the start of all new contracts, so a Grantee must evaluate whether cost adjustments are necessary annually.

Q. If materials become unavailable, severely delayed, or outrageously expensive, can consideration of an ECM be skipped?

- A. Refer to [WPN 19-4 \(Attachment 8\)](#) for guidance on measure skipping and see previous question relating to installation and fuel cost changes. Grantees should consider whether alternate funding sources may be used to pay for measures outside of DOE cost-effectiveness and inspection requirements if expense is the issue or if a delay will affect reporting of completed units in a timely manner. Any change to the work order after it has been determined by the energy audit must be thoroughly documented with the reason for the change and follow the Grantee’s instructions for work order changes. If an item called for in the work order is simply unavailable for installation due to supply chain issues, the Grantee should seek an alternative material with an equivalent efficiency rating if possible. It is not possible to address all the potential scenarios here, but if there are extenuating circumstances that require a significant change to the work practices of your Subgrantee network, please provide your DOE Project Officer with the specifics and request technical support regarding the matter.

SPECIAL ENERGY AUDIT APPROVAL ITEMS

Extended Lifespans

Q. Can Grantees adopt the extended lifetimes contained in WPN 19-4 (Attachment 9) without specific written approval from DOE?

- A. No, Grantees must submit a formal request to DOE to extend lifetimes beyond the default values listed in [WPN 19-4 \(Attachment 9\)](#) and receive written DOE approval. As a reminder, [WPN 19-4](#) supersedes any previous energy audit approval’s lifespans, meaning that all Grantees must adhere to the default lifespans for evaluation of Energy Conservation Measures unless they receive specific approval after the issuance of [WPN 19-4](#). It is recommended that changes be made in the process of energy audit renewal, but this may be done outside of this cycle if the Grantee desires. The Grantee must provide their Project Officer with the measure library (database) that demonstrates not only the updated lifetimes, but also the fuel escalation rates, and discount rate used in the measure analysis. Additionally, the Grantee must ensure that the installation of measures meets the requirements of [WPN 19-4 \(Attachment 9\)](#) to have the life increased beyond the default value. For instance: the extension of floor insulation lifespan beyond 20 years requires that the floor insulation be installed in “fully-enclosed, airtight cavities”. The Grantee would need to submit to DOE their policy that requires all floor insulation be installed in this manner and provide such guidance to the Subgrantee when increasing the allowable lifespans.

Q. If a Grantee wants to extend a lifespan of a measure beyond the maximum values listed in WPN 19-4 (Attachment 9), what supporting documentation is required?

- A. The Grantee must provide independent third-party analysis of lifetimes for an installed material that demonstrates its lifespan is longer than the values included in [WPN 19-4 \(Attachment 9\)](#). This analysis may not be from the product manufacturer, trade group, or any entity that has a financial interest in seeing the lifespan of the material extended. DOE will not approve any lifespan beyond 30 years because at the time of this writing the fuel cost indices which are forecast by the Energy Information Agency do not extend beyond 30 years. Since future fuel cost is integral to the determination of measure Savings to Investment Ratios (SIRs), measure life cannot extend beyond that forecast period.

Non-Appendix A Materials Approvals

Q. Do Grantees need specific written permission from DOE to install LED lighting, refrigerators, spray-foam insulation, or water heaters as Energy Conservation Measures (ECM)?

- A. Yes. [10 CFR 440 Appendix A](#) (attached to WPN 19-4 for reference) does not contain these materials at the time of this writing and therefore DOE must specifically approve the installation of these materials as ECM for each Grantee. This process only applies to materials installed as ECM, if these materials are installed as health and safety measures, incidental repair measures, or general heat waste items, or only with alternative funding, they do not need to be specifically approved. [WPN 19-4, Attachment 6](#) provides detailed instructions for adding non-appendix A materials to the Grantee's approved energy audit. DOE encourages Grantees to seek approval for any additional materials which could be completed as an ECM using DOE funds even if currently those are being installed with alternative funds. This allows additional flexibility when funding fluctuates.

PRIORITY LISTS

Q. Can a Grantee receive approval for a Priority List (PL) without having an unexpired energy audit approval?

- A. No. The Grantee is required to use their currently DOE-approved energy audit tool to justify the measure costs and order in their PL per [WPN 19-4, Attachment 2](#). This means that their energy audit tool approval must be unexpired to use it to justify the PL. PLs may be submitted as part of the energy audit renewal process as long as the current approval has not expired prior to the submittal.

Q. Are Priority Lists (PL) required to have cost limitations?

- A. Yes, [10 CFR 440.21\(g\)](#) allows for priority lists to be “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”, the requirements of paragraphs [“\(b\) through \(f\)”](#) require cost-effectiveness tests that require Grantee-specific installation prices and fuel costs to justify the presence and order of measures. As an integral part of the PL process these prices must be explicitly defined in the PL as provided to the Subgrantee network. Each measure in the PL must have an allowable (and scalable, if applicable) cost defined in the documentation provided to DOE and the Subgrantee network for implementation.

Q. Can we include incidental repair measures (IRM) when using a priority list (PL)?

- A. To receive DOE approval, all PL must clearly indicate the maximum allowable per job IRM cost. If the IRM costs remain below this cap, then these costs may be included in the job costs using the PL. If the IRM cost exceeds the Grantee specified cap, then a site-specific energy audit must be performed. Combining a partial energy audit and the PL is not allowed and a complete energy audit for all weatherization measures on the home is necessary to cost-justify incidental repairs above the Grantee defined cap approved in the PL by DOE. (See WPN 19-4 - Attachment 2 for additional information).

ENERGY MODELING SPECIFICS

Q. Do all measures in the work order need to be evaluated by the energy audit tool?

- A. Yes, [10 CFR 440.21\(d\)](#) requires all measures installed in the dwelling as Energy Conservation Measures be evaluated by the energy audit tool as individual measures and as a package of measures (cumulatively). It also requires all measures installed as Incidental Repair Measures (IRM) be included in the evaluation of the package of measures. Health and Safety (H&S) measures do not need to be evaluated for cost-effectiveness by the energy audit tool, however if a mechanical system (i.e., heating, cooling, or water heater) is replaced as a health and safety measure the energy audit must evaluate all other measures with the new appliance installed.

Q. Must all existing heating/cooling systems be input and including in the evaluation by the energy audit tool?

- A. Yes, all existing heating or cooling systems must be included in the energy audit evaluation of the dwelling. [10 CFR 440.21\(f\)6](#) requires that homes must be evaluated as a “whole system” including its “heating and cooling system”. This includes secondary heating/cooling sources such as space heaters, window A/C units, and solid fuel stoves. This is because all these systems account for energy used by the dwelling and therefore must factor into the evaluation of the weatherization measures in the home. Additionally, all heating and cooling systems in the home must be evaluated for replacement as energy conservation measures by the energy audit. [10 CFR 440.21\(f\)3](#) requires the energy audit procedures to “address significant heating and cooling needs”, which means that the energy audit must be able to evaluate the replacement of both heating and cooling systems. If a correctly entered energy audit software evaluation results in a Savings to Investment Ratio (SIR) of 1.0 or greater the system may be replaced with DOE funding as an Energy Conservation Measure, but regardless of the funding source it must be included in the package of measures to allow them to be “interacted” as required by [10 CFR 440.21\(e\)1](#).

Q. If a measure is installed in the home as a health and safety item, or using non-DOE funding sources (e.g. Utility, LIHEAP, etc.), how should the energy audit analysis reflect its installation?

- A. The cost-effectiveness evaluation (energy audit) must be performed so that it reflects the installation of this measure as part of the package of measures to ensure that all other measures installed as Energy Conservation Measures (ECM) are truly cost-effective when “interacted” as required by [10 CFR 440.21\(e\)1](#). When an “architectural” or “mechanical” measure is installed as part of the package of measures, even if funded through an alternate source, the energy audit must evaluate the other measures according to the final state of the house, including any measures which are included outside of the SIR requirements of DOE ECM funding. The Grantee must also have written policy in place to address how the auditor is to handle such replacements that agrees with the intent of [10 CFR 440.21\(e\)1](#).

Q. How should a non-working heating and/or cooling system be modeled for replacement as an ECM?

- A. Per 10 CFR 440.16(h) the Weatherization Assistance Program (WAP) must categorize the measure as an ECM if possible. Also, federal regulation ([24 CFR 576.403\(c\)6](#)) and local codes ([2018 IRC: R303.10](#)) require that every home has a functional central heating system that is adequate for the entire “habitable” space. Each Grantee should have a written policy and procedure for the energy modeling of non-functional heating/cooling systems that accurately represents the home’s existing condition. There are many varying circumstances to consider which cannot be covered here, however, DOE offers this previously DOE-approved policy example:
- i) When the energy auditor is attempting to replace a non-working heating/cooling system as an energy conservation measure, they should enter the system as it was originally designed and installed. This includes the capacity, AFUE, and % of space conditioned.
 - ii) AFUE information should come from the data plate or tag on the appliance or may be determined by dividing the design output by the input (e.g., output 80kbtu/input 100kbtu = 80% AFUE).
 - iii) In the case of electric furnaces, the AFUE should be entered as 100%.
 - iv) If the system uses a compressed refrigerant cycle (air conditioning or heat pump), the derating allowance outlined in WPN 19-4 may be used to determine the SEER/EER/HSPF of the unit for modeling purposes.
 - v) If the appliance qualifies for replacement as an Energy Conservation Measure (ECM) with an SIR of 1.0 or greater then DOE ECM funds may be used to replace the system.
 - vi) If the replacement unit does not meet an SIR of 1 or greater, then the unit must be replaced either as a WAP H&S measure or using funding other than WAP.

Q. How should the heating and/or cooling system be modeled if the home has no existing central systems and the client is using various supplementary heating and/or cooling devices such as portable space heaters?

A. Per 10 CFR 440.16(h) the Weatherization Assistance Program (WAP) must categorize the measure as an ECM if possible. Also, federal regulation and locally enforced occupancy codes require that every home has a functional central heating system that is adequate for the entire “habitable” space. Each Grantee should have a written policy and procedure for the energy modeling of supplementary heating/cooling systems that accurately represents the home’s existing condition. There are many varying circumstances to consider which cannot be covered here, however, DOE offers this previously DOE-approved policy example:

- i) Enter the supplementary systems accurately using the original specifications for output, AFUE, etc. The separate systems should be input accurately to reflect the actual % or ft² of the conditioned space heated/cooled and should never exceed more than 100% of the total conditioned space.
- ii) All unvented space heaters, whether electric or fuel-fired, should be entered as 100% SSE or AFUE.
- iii) All vented heaters should be input with either the measured efficiency or the AFUE from the data plate.
- iv) Determine if the appliance qualifies for replacement as an Energy Conservation Measure (ECM) by running the energy audit and attempting replacement with a high efficiency system, or heat pump in the case of an electric furnace.
- v) If the replacement unit does not meet an SIR of 1 or greater, then the unit must be replaced either as a WAP H&S measure or using funding other than WAP.