

# **Commercial Building Energy Audit Program 2017 Program Guidelines**

September 15, 2017

**Application Deadline:**

**November 15, 2017**

## **Introduction**

The Alaska Energy Authority (Authority) is administering a commercial building energy audit (CBEA) program with the purpose of improving the energy efficiency of commercial building infrastructure in areas of the state defined as rural by USDA – all parts of the state outside of the Municipality of Anchorage (<https://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency>). The CBEA is currently funded through the USDA Rural Energy for America Program (REAP), which only funds energy audits for privately-owned commercial buildings.

The CBEA program will provide high quality energy audits to private commercial building owners to help them identify and quantify the value of energy efficiency measures that could be implemented specific to their building. This program will pay for 75 percent of the full cost of an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level I audit. The building owner must pay the Authority directly for the remaining 25 percent of the cost of the audit and the Authority will pay the energy auditor the full reimbursable amount for their services. The cost of the audit, and associated 75 percent grant subsidy, is based on the size of the building. It is expected that the current level of CBEA funding will provide for approximately 40 energy audits, depending on the size and location(s) of the buildings that participate.

Successful applicants may choose to request a more detailed ASHRAE Level II audit from the certified energy auditor. Building owners interested in an ASHRAE Level II energy audit must pay the energy auditor directly for the difference in cost between the Level I and Level II audit.

The CBEA program does not pay for the implementation of the recommended efficiency measures but assistance is available to help building owners identify alternate financing options to pay for recommended improvements.

## Program in Brief

Application period:	September 15, 2017 – November 15, 2017
Eligibility:	Privately owned commercial buildings in Alaska
Audit subsidy amount:	\$450 to \$1,575 depending on building size
Number of buildings to be funded:	approximately 40, depending on building size and location
Audits & audit reports complete:	December 15, 2017 – April 15, 2018; reports 30 days after audit
Building owner 25% payment due:	prior to the audit and no later than January 15, 2018
Apply online:	<a href="http://www.akenergyauthority.org/efficiency/commercialaudit">http://www.akenergyauthority.org/efficiency/commercialaudit</a>

## Application Period

The Alaska Energy Authority will accept applications from eligible commercial building owners during an open application period starting September 15, 2017 and ending November 15, 2017 at 5:00 pm Alaska Daylight Time.

## Eligible Applicants

Eligible applicants are owners of privately-owned commercial buildings in Alaska, including individuals, corporations, partnerships, LLCs, etc. To be eligible, an online application must be submitted by or on behalf of a building owner, and the owner must agree to the required commitments listed on the application form.

## Eligible Buildings

Eligible buildings are limited to commercial buildings in Alaska that are privately owned. Building uses may vary widely, including office buildings, restaurants, grocery stores, warehouses, retail, medical offices, hospitals, hotels, lodges, etc.

The energy audits are for whole buildings only; tenants of buildings are not eligible to have partial building audits conducted under this program, but are encouraged to invite their property owner to participate.

## Services Provided

The Authority will subsidize 75 percent of the full cost of an ASHRAE<sup>1</sup> Level I energy audit<sup>2</sup> for one or more eligible buildings owned by approved applicants. Applicants may submit applications for multiple buildings. The Authority will cover auditor travel expenses in full for auditors travelling more than 100 miles by car or to a community which is not road connected. The Authority will select and hire qualified energy auditors and assign them audits based on their specific expertise and geographic location. The energy audit and audit report shall provide at least the minimum requirements outlined below in the “Elements of Energy Audit” section and in the format specified by the Authority.

The applicant may specify items of interest for the energy auditor to inspect more thoroughly while on site and/or request an ASHRAE Level II energy audit but the Authority will not cover audit costs beyond those of an ASHRAE Level I audit. Following the on-site energy audit, the auditor will prepare an energy audit report for the applicant and send a copy to AEA along with an AKWarm-C file so that the audit

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<sup>1</sup> American Society of Heating, Refrigeration and Air Conditioning Engineers, [www.ashrae.org](http://www.ashrae.org)

<sup>2</sup> For those not familiar with the levels of energy audits Wikipedia has descriptions:  
[http://en.wikipedia.org/wiki/Energy\\_audit](http://en.wikipedia.org/wiki/Energy_audit)

record can be stored in the state-managed Alaska Retrofit Information System (ARIS) database. The energy audit report will include a written report of current energy use including benchmark Energy Use Index (EUI), identification of capital improvements that will reduce energy consumption, and recommended low-cost and no-cost energy efficiency measures (EEM) and energy conservation measures (ECM). The energy audit will be equivalent to an ASHRAE Level I audit or better, meaning that the report will list specific low-cost and no-cost EEMs and ECMs and how cost effective each is as well as identification of potential capital improvements and high level estimates of the cost effectiveness of each along with a recommendation of additional audit and analysis. The audit will also include energy use benchmarking using past years' energy utility data to compare the building's energy use against itself and against similar buildings.

#### **Prioritization of services while on site**

Auditors may have the opportunity to perform additional work while on site. That work must be completed in the following order of priority:

1. ASHRAE Level I audits performed through the CBEA program
2. Adding ASHRAE Level II audit components to Level I audits performed through the CBEA program
3. Conducting audits of additional buildings identified on-site in the community, provided they meet program eligibility requirements and funding is available

#### **Audit subsidy level**

The Authority will pay for 75 percent of the cost of an ASHRAE Level I energy audit, as detailed in the table below. The applicant must pay the Authority the remaining 25 percent of the total audit cost prior to the on-site audit and no later than January 15, 2018. The Authority will pay the energy auditor directly for the full cost of the audit.

If the building owner elects to receive an ASHRAE Level II energy audit from the certified energy auditor selected by the Authority to conduct the ASHRAE Level I audit, the owner must pay the auditor directly for the difference in cost between the Level I and Level II audits.

#### **ASHRAE Level I Audit Cost and Subsidy Table**

Square feet of Building	25% paid to Authority by building owner	75% subsidy paid by the Authority	Total Audit Cost
Up to 3,000 sf	\$150	\$450	\$600
3,001 - 6,000 sf	\$225	\$675	\$900
6,001 - 10,000 sf	\$300	\$900	\$1,200
10,001 - 20,000 sf	\$400	\$1,200	\$1,600
Greater than 20,000 sf	\$525	\$1,575	\$2,100

#### **Travel Cost**

The Authority will pay for travel costs for auditors travelling more than 100 miles by car or to a community which is not road connected.

### Commitments Required of Applicants

1. The building owner certifies that the building on the application form is a privately-owned commercial building in Alaska.
2. The building owner shall pay for 25 percent of the cost of the ASHRAE Level I audit up-front to the Authority prior to the on-site audit and no later than January 15, 2018. In the event that the audit does not occur, the Authority will return funds to the building owner.
3. The building owner shall commit staff time to support the auditor during pre-meetings and walk-throughs; by providing as-built records, two years of historic energy utility records, and similar documents as needed; and by supporting the auditor in other related activities.
4. The building owner shall commit to making at least some of the recommended low- and no-cost improvements within one year of receiving the energy audit report. The Authority will work with program participants as requested to identify financing sources for implementation of recommended energy efficiency improvements.
5. The building owner shall participate in a follow-up survey one year after receiving the energy audit report. As part of the survey, the building owner shall provide an update of the building's energy use (utility bills), a list of the energy efficiency measures implemented and date of implementation, investments made in improvements, and program feedback.
6. The building owner shall permit the Authority and/or energy auditor to obtain energy usage records for the calendar year following implementation of recommended energy efficiency measures.
7. If the building owner elects to receive an ASHRAE Level II energy audit from the certified energy auditor selected by the Authority to conduct the ASHRAE Level I audit, the building owner agrees to the energy auditor providing an electronic copy of the ASHRAE Level II audit report to the Authority.
8. The building owner shall allow public use of the building name and location in association with the building energy use and/or energy savings data, through a written success story, or through a map interface of energy efficiency measures implemented in Alaska, or similar public information about energy efficiency improvements that have been implemented.

### The Application and Program Process

1. **Applicant** completes the application form and submits to AEA by November 15, 2017
2. **Applicant** receives Notice of Award email from AEA if selected by December 1, 2017
3. **Applicant** makes payment for 25 percent of cost of audit to the Authority before the on-site audit and no later than January 15, 2018
4. **Authority** assigns an energy auditor and notifies Applicant: The energy auditor will contact the applicant directly to coordinate logistics related to receiving the energy audit.
5. **Auditor and Applicant** conduct the energy audit December 15, 2017 – April 15, 2018, after Authority receives Applicant's 25 percent payment.
6. **Auditor** emails reports: Auditor emails the following reports plus any supporting documents to both the applicant and AEA ([energyaudits@aidea.org](mailto:energyaudits@aidea.org)), including building name in subject line within 30 days of completing the audit:
  - a. **Energy Audit Report** in format provided by the Authority

- b. **Energy Audit Report Summary Form** in format provided by the Authority
  - c. **Photographs**
  - d. **Other Supporting Material**
  - e. **AKWarm-C file**
7. **Authority reviews documents and pays energy auditor:** The Authority will review reports for quality and completion. If documents are acceptable, the Authority will pay the auditor within 30 days of receipt of approved deliverables.
  8. **Applicant implements energy efficiency measures:** Implement at least some of the recommended low- and no-cost energy efficiency measures within one year of audit report; the Authority will provide assistance in identifying financing options for implementation of other recommendations.
  9. **Applicant responds to survey one year after audit:** The applicant provides information needed to respond to a survey the Authority will conduct one year after the audit has been completed.

### **How Applicants Will Be Selected**

- Applications will be reviewed for meeting the eligibility requirements for buildings, applicants, and the required commitments described above. Ineligible applicants will not be considered further and will be notified by email.
- Applications will be evaluated for the cost of energy in the community in which they are located. Buildings that operate in high cost energy communities will be given more points in the scoring process. High cost energy communities are defined as those with cost of power that is at least twice the PCE base rate which is the weighted average cost of power in Anchorage, Fairbanks and Juneau.
- Applications will be reviewed to ensure geographic distribution and the types of buildings served.
- Consideration of the number of eligible applicants within communities for which the Authority will fund the auditor's travel. The Authority will pay for travel costs for auditors travelling more than 100 miles by car or to a community which is not connected to the road system. **There must be at least two eligible buildings from these qualifying communities for any applicant and/or building from that community to be considered.** Paying for auditor travel for one energy audit is not cost effective for the State or for the auditor. Applicants are encouraged to reach out to owners of other eligible buildings to ensure that there are at least two buildings in each community.
- If all other application criteria are equal applications will be ranked on a first come first serve basis.
- If available funding is not fully committed after the application period, remaining funding will be available to add eligible buildings in rural communities when auditors are on site.

### **Completion of Program**

Applicants who do not follow the program guidelines or who do not agree to the required commitments will not have an energy auditor dispatched to perform an energy audit on their building(s). This includes any selected applicants who do not submit payment to AEA to cover the required 25% of total audit cost. Selected applicants must submit payment for 25% of audit cost prior to the audit and no later than January 15, 2018. Any forfeited funding will be rotated to other eligible applicants.

## **Guarantees**

The Authority requires eligible auditors to meet minimum certification and professional standards, however the Authority provides no guarantee of the quality of the energy audits provided or a guarantee of the savings stated in the audit reports.

Some energy audit firms may be willing to provide certain warranties or guarantees of energy savings, though the energy savings guarantees may increase the cost of the energy audit. Beyond the ASHRAE Level I energy audit, the content of the agreement between the energy audit firm and the applicant is between those two entities, and the Authority shall not be a party to that agreement. The Authority's only role is to provide funding, up to a limit, for qualifying energy audit services as described in this document.

## **Elements of the Energy Audit**

The energy audit completed by the qualified energy auditor selected by the Authority shall meet ASHRAE Level I commercial energy audit standards and contain the elements described below. In addition to the typical major systems assessments common in commercial energy audits, auditors under this program are required to examine and report on other often overlooked energy efficiency opportunities. Beyond these minimum requirements, applicants may work with the energy auditor to focus more attention on certain systems of interest and/or to request a more comprehensive ASHRAE Level II audit. Any costs associated with work beyond the ASHRAE Level I audit must be paid directly from the building owner to the energy auditor. It is the applicant's responsibility to provide records, information and building access to the energy auditor so that they can perform the energy audit.

### **1. Energy Audit Report**

A Level 1 energy audit report documenting and providing details on findings of the on-site energy audit will be provided to the building owner and to the Authority by the auditor within 30 days of completing the audit.

The Level I audit report will include recommendations for low-cost and no-cost energy efficiency improvements including capital projects, operational adjustments and occupant behavioral changes. The audit will also identify areas where a more comprehensive energy audit may provide information needed to further decrease energy usage and make recommendations for a more in-depth energy audit such as an ASHRAE Level II audit. The building owners should gain enough information to make low-cost and no-cost improvements as well as guidance about prioritizing higher cost, more in-depth energy efficiency retrofits. Specifically, the report will include the following:

#### **a. Energy Use History**

Documentation of energy use history for at least two years prior to the audit date, and preferably more, as provided by the building owner.

#### **b. Audit and Documentation of all Major Building Systems**

- i. Heating system, ventilation system, and/or air conditioning

- ii. Lighting (indoor and outdoor; equipment and controls; lighting level and distribution; and an assessment of after-hours lighting)
- iii. Electrical equipment (motors, pumps, equipment, plug loads, appliances)
- iv. Specialized equipment (walk-in freezers, kitchen equipment, fan hoods, compressed air systems, etc.)
- v. Domestic water heating
- vi. Building envelope
- vii. Energy conservation: Employee or building user behavior

**c. Energy Efficiency Opportunities**

**i. After-Hours**

Auditors shall obtain information about the building's usage during hours of operation and during after-hours to determine whether energy savings opportunities exist after hours.

**ii. Energy Conservation**

Auditors shall learn about the human factors of energy use in the building and prescribe energy conservation measures. Auditors are encouraged to provide hands-on training/education to building users in conjunction with the building's contact and/or energy team.

**iii. Plug Loads**

Auditors shall record energy use patterns of relatively smaller plug loads such as computers, printers, coffee makers, vending machines, domestic refrigerators, electronics, etc., and prescribe EEMs or ECMs to reduce their energy usage.

**2. Energy Audit Report Summary Form**

The energy audit report summary consists of a spreadsheet format summary which includes sections for building information, utility bill history, and a summary of recommendations. The summary of recommendations section contains one row for every energy efficiency measure recommendation, including estimated implementation cost, energy savings, cost savings, simple payback, and similar information to inform the building owner's decision-making process regarding implementation. The recommendations will be numbered and tie back to the energy audit report. Auditors are required to complete this worksheet and provide it to the building owner and the Authority with the energy audit report.

**3. Photographs**

Photographs shall be included in the audit report, with at least one exterior photograph of the building. Photographs of buildings taken as a part of this program become the Authority's and may be reused for related or unrelated purposes.

4. **Other Supporting Materials**

The auditor shall also submit to the Authority and building owner any materials used to support the energy audit findings such as data log files, and spreadsheets of all calculations.

5. **AKWarm-C file**

Auditors are required to complete an AKWarm-C file, which is a software used by energy auditors to determine the energy efficiency of Alaska small to medium size commercial buildings, based on its heating and air handling systems, building envelope, and foundation. The AKWarm-C file contains general building information and characteristics, recommended energy efficiency improvements and the modelled estimated savings in energy and cost associated with those measures. The auditor will submit the AKWarm-C file directly to the Alaska Retrofit Information System (ARIS) and the Authority at the same time the energy audit report and report summary are submitted.

**Program Changes**

The program may undergo changes both prior to the application deadline, and possibly while underway. Please be sure to check back to the program web site for the most recent versions of this document and other applicable documents.

**Additional Information**

All current forms and information about this program will be posted on AEA's web site [www.akenergyauthority.org/Efficiency/CommercialAudit](http://www.akenergyauthority.org/Efficiency/CommercialAudit). Any other questions and comments may be addressed to:

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Attn: Betsy McGregor  
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813 West Northern Lights Blvd.  
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[energyaudits@aidea.org](mailto:energyaudits@aidea.org)  
P (907) 771-3000  
P 1-888-300-8534 (in state only)