

**Request for Statements of Interest and Qualifications
For
Energy Efficiency Project Developers**

1. Request for Statements of Interest and Qualifications

The Alaska Department of Transportation and Public Facilities (DOT&PF) is assisting the Alaska Housing Finance Corporation (AHFC) in seeking qualified firms capable of acting as Energy Efficiency Project Developers (EPPD) for government entities in the State of Alaska. A list of qualified Energy Efficiency Project Developers will be developed to provide the services detailed in the attached Statement of Services. The list will be provided to other government entities in the State of Alaska such as boroughs, municipalities, tribal governments, school districts, or subdivisions of local government who are considering energy efficiency projects.

The AHFC will be promoting the use of the qualified EPPDs to state government entities and is establishing an Energy Efficiency Technical Assistance Center to provide assistance to public facility owners needing guidance in engaging and executing energy efficiency projects.

Those firms on the list are not guaranteed any follow-on work, and no work will be awarded by the DOT&PF.

2. Selection

This Request for Statements of Interest and Qualifications is not a formal solicitation under the Procurement Code of the State of Alaska. **By providing a Statement of Interest and Qualifications in response to this request, the respondent is acknowledging that the decisions of the DOT&PF and the scoring committee are final.** The State of Alaska is not responsible for any costs associated with the preparation of responses.

Selection will be scored based on the provided Selection Criteria. Up to 10 highest scoring firms will be included on the list. The list will be active for three years.

3. General Scope

Firms will be expected to provide energy audits, comprehensive energy efficiency consulting services, design consulting, and associated measurement and verification analysis and reporting of energy savings. Additionally, firms should be able to provide training to staff on maintenance and operations of systems, coordination and assistance to AHFC and its technical program consultants in providing and sharing facility information, energy savings data and information to be entered into the AHFC Alaska Retrofit Information System (ARIS) database resulting from implementation of energy improvements.

4. Contents of Responses

Each interested firm should provide a Statement of Interest and Qualifications that does not exceed twelve (12) 8-1/2 inch x 11 inch pages. Carefully review each criterion and provide a distinct response for each, with the responses titled, numbered, and assembled in the order in which the criteria are listed. In addition, provide a cover page that includes the following information:

- Firm Name
- Individual Authorized to Sign Contracts
- Mailing Address
- Physical Address
- Phone Number

- Fax Number
- E-mail Address
- Business License in State of Residence
- Federal Tax ID #
- Identify all subcontractors and their Alaska Business License & Professional Licenses
- Region (or regions) of Alaska the respondent is interested in doing work in (reference Exhibit 3)

The cover page will not count toward the 12 page limit. Provide five (5) copies of the Criteria Responses and the work product requested in Evaluation Criteria 6.

Please note that State of Alaska professional licensing regulations require that professional engineers' architects and land surveyors must hold current Alaska registration to practice in the state of Alaska. Reminder: Respondents must have a valid Alaska Business License prior to award of a contract. Also, for federally funded projects, the respondent will be required to certify that all subcontractors have valid Alaska Business Licenses prior to award of a subcontract. For projects without federal-aid finding (State funding only), the respondent will be required to certify that Alaska Business Licenses were valid at the time proposals were opened for all listed subcontractors.

5. Pre-solicitation Meeting & Agency Contact

A non-mandatory pre-solicitation meeting will be held on April 12, 2016 at 2:00 pm in Anchorage, at a specific location to be determined and publicly announced in advance.

Agency Contact: Rebecca Smith, P.E., CEM

Phone Number: 907-269-0802

E-mail: Rebecca.smith2@alaska.gov

All requests for information or questions must be in writing.

6. Response Deadline

Responses must be received by the individual below no later than **4:00 p.m.** prevailing time, **April 21, 2016**. Late responses will not be opened. Faxed or e-mailed responses will not be accepted.

Ralph Kiehl, P.E., Review Engineer

Alaska Department of Transportation and Public Facilities

P.O. Box 196900

Anchorage, AK, 99519

Phone: 907-269-0422

Fax: 907-269-0402

E-mail: ralph.kiehl@alaska.gov

Individuals with disabilities, including the hearing impaired, who may need auxiliary aids, services, and/or special modifications to submit a response should contact the TTD number: (907) 269-0473, no later than one week prior to the submittal date to make any necessary arrangements.

Attachments:

Selection Procedure (1 page)

Selection Criteria (3 pages)

Statement of Services (13 pages)

Exhibit 1: Instructions for Downloading Energy Usage Entry Version 3.3 (1 page)

Exhibit 2: Energy Audit Schedules (4 pages)

Exhibit 3: Map of Alaska-Regions of Work

Request for Statements of Interest and Qualifications
Energy Efficiency Project Developers

SELECTION PROCEDURE

Responses will be evaluated by a committee. Scoring of responses will be accomplished as follows:

1.1 Each Evaluator will individually read and rate responses to each criterion. Ratings will be based solely on contents of Statements of Interest and Qualifications. Except as may be stated within any criterion description, a rating of "5" indicates the most responsive; ratings of "4-1" indicate progressively less responsiveness; and a rating of "0" indicates Non-responsive. Ratings are multiplied by the assigned weights for each criterion to obtain criterion scores.

1.2 After completion of individual ratings, the Evaluation Committee will meet to discuss ratings. Evaluators may then alter their ratings; however, any changes shall be based solely on the Evaluation Criteria set forth in the Request for Statements of Interest and Qualifications.

1.3 During the Evaluation Committee Meeting, Evaluators may discuss factual knowledge of, and may investigate prior work experience and performance, including referenced projects, available written evaluations, etcetera, and may contact listed references or other persons knowledgeable of a firms past performance. Factors such as overall experience relative to the proposed work, quality of work, and ability to meet schedules may be addressed.

1.4 At the conclusion of evaluation procedure, the DOT&PF will publish a list identifying up to ten (10) highest scoring firms. The list will also be provided to the Alaska Housing Finance Corporation for their use.

SELECTION CRITERIA

SECTION I - TECHNICAL PROPOSAL

1. Objectives and Methodology

1. Weight: 20

Describe your understanding of the objectives and challenges of this particular contract and your approach to delivering Energy Efficiency Project Development services as described in the Statement of Services.

Projects may be anywhere in Alaska. Address how the experience and capabilities of your firms (Offeror and Proposed Subcontractors) and Project Staff might *specifically* contribute to delivering Energy Efficiency Project Development services to urban and rural Alaskan communities.

Outline the methods for performing work described in the Statement of Services. Describe what, when, where, how, and in what sequence the work will be done. Identify the amount and type of work to be performed by any Subcontractors. Consider how each task may be carried out; what services or interaction required from/with the User Entity; etcetera. Suggest alternatives, if appropriate.

The firms selected should be committed to answering specific project request for proposals. Describe your commitment, should you be selected, to responding to specific project request for proposals and to meeting the User Entity's needs for thorough and complete services.

2. Energy Efficiency Project Development Experience and Capabilities

2. Weight: 20

The firms that are selected must be capable of providing comprehensive Energy Efficiency Project Development services as described in the Proposed Statement of Services.

Describe your experience, capabilities and accomplishments including, but not limited to:

- Developing and managing successful energy efficiency and renewable energy projects from initial concept through construction completion.
- Providing overall project and construction management services for urban and rural/remote Alaska projects.
- Performing energy audits – from walkthrough level energy audits to investment grade level energy audits.
- Providing professional architectural, engineering and hazardous material design services for energy efficiency retrofits.
- Providing financial explanation, analysis and advisement related to energy efficiency projects.
- Facilitating financing for the construction of energy efficiency retrofit projects.
- Providing Measurement & Verification services or assistance.
- Providing Operations & Management training, commissioning and re-commissioning services.
- Providing technical assistance services such as energy management, energy efficiency planning, coordination and education.

Identify any distinct and substantive qualifications for undertaking the proposed work such as the availability of specialized equipment or unique approaches or concepts relevant to the required services which the firms may use.

3. Management

3. Weight: 15

Response should describe the administrative and operational structures that will be used for performing the proposed contract. For example consider: who will have overall responsibility for the contract? Who will have direct responsibility for specific disciplines? Who will be responsible for overseeing project development and management, or providing energy audit or energy management services? What will the lines of authority be? **A graphic depiction is preferred in your response to this criterion.**

Additionally, the User Entity may want to inspect work products in progress and have a close ongoing working relationship with your Project Staff. Accordingly, your response should also identify where the various contract services will be performed. Also, identify how communications will be maintained between your Project Staff, the User Entity, and (as applicable) any other government agencies, political subdivisions of the State, or the public.

4. Proposed Project Staff

4. Weight: 25

Response must name the individuals to perform the following **FUNCTIONS** plus any other professional/technical functions you deem essential to perform the services:

1. Contract Management (contract compliance)
 2. Project Management (single point-of-contact directly engaged in contract performance)
 3. Energy Design / Energy Analysis
 4. Certified Energy Professional – State the certification (eg. CEM, CEA, BEAP)
 5. Mechanical Engineering*
 6. Electrical Engineering*
 7. Measurement and Verification (M&V) Analysis
 8. DDC Engineering
 9. Architectural*
 10. Civil Engineering*
 11. Structural Engineering*
 12. Hazardous Materials / Environmental Remediation
 13. Financial Planning
 14. Operations & Maintenance Consulting and Training
 15. Commissioning and Retro-Commissioning Planning
- *All personnel acting in responsible charge for all Architectural, Engineering and Land Surveying functions require an Alaska Registration and must be identified in your proposal.

Unique individuals do not need to be listed for each category.

Describe the work to be performed by the individuals you name to perform essential functions and detail their specific qualifications and substantive **experience directly related to the proposed statement of services.** A response prepared specifically for this proposal is required. Marketing resumes often include non-relevant information which may detract from the evaluation of proposal. Lists of projects are not useful. Focus on individual's specific duties and responsibilities and how project experience is relevant to the proposed contract.

For each person named, identify their: employer, professional discipline or job classification and state of residency. List at least 3 professional references (contact persons and telephone numbers) for each person. For any individual who would be in "responsible-charge" (reference AS 08.48) as an Architect or Civil (including Structural), Electrical, Mechanical Engineer, so state and list his/her Alaska professional registration number.

5. Past Performance

5. Weight: 15

Response must identify the period of time firms (Offeror and/or Subcontractors) have been in business **under current organization and name**. Discuss any prior work relationships among the firms.

Describe previous projects the project team has worked on where an Investment Grade Energy Audit was completed and led to a design that was used to solicit bids from contractors for the implementation of the items identified in the Audit. Describe the dollar amount of the projects and brief narrative of the successes of the projects. Indicate which of the proposed firms and project staff were involved in such projects. Address how the experience will help your team to perform under this contract. For each project, list the contracting entity and a reference (contact person and a telephone number). DOT&PF, AHFC, and User Entities reserve the right to investigate referenced projects, contact references and research other projects that the respondent has worked on.

6. Work Product

6. Weight: 5

Provide a sample of a work product which includes the investment grade energy audit and report of savings for a commercial building, preferably in the range of 5,000 to 100,000 gross square feet. The work product completeness and clarity will be evaluated.

STATEMENT OF INTEREST

PROPOSED STATEMENT OF SERVICES

**ENERGY EFFICIENCY PROJECT
DEVELOPMENT**

**STATE OF ALASKA DEPARTMENT OF TRANSPORTATION &
PUBLIC FACILITIES AND ALASKA HOUSING FINANCE
CORPORATION**



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SECTION 1.0 INTRODUCTION

- 1.1 The State of Alaska is seeking qualified businesses or business teams to provide project development and energy efficiency consulting services. These businesses or business teams will be called Energy Efficiency Project Developers (EEDPs). EEDPs will be selected to perform Professional Services only. No Construction work will be performed under this agreement.
- 1.2 The purpose of the Request for Statements of Interest and Qualifications is to develop capacity to provide project development, maintenance management, and energy management services to building owners for energy efficiency and renewable energy retrofits.
- 1.3 EEDPs selected under this Request for Statements of Interest and Qualifications will be qualified to propose on project solicitations from the Alaska Housing Finance Corporation (AHFC) and local government and subdivisions of local government, including school districts. These solicitations will be conducted by the individual User Entity using their own procurement procedures.
- 1.4 The AHFC Energy Efficiency Technical Assistance Center may assist some local governments in the development of a scope of services for project developers to submit proposals. Some projects may be full energy efficiency project retrofits, others may be portions of projects at the determination of the User Entity, and may or may not include all of the services described in the Statement of Services.
- 1.5 The list of selected EEDPs will be forwarded to AHFC and other units of governments, including boroughs, municipalities, school districts, tribal governments, and subdivisions of local governments.
- 1.6 The State of Alaska will not be issuing any work under the request.
- 1.7 An interested EEPD must demonstrate comprehensive technical and managerial capability to address a broad range of building energy and water systems, provide a comprehensive set of energy efficiency and water efficiency services, and capture the value of any directly related benefits.
- 1.8 EEPD requirements include, but are not limited to, an energy audit, comprehensive energy efficiency consulting services, design consulting, and associated measurement and verification analysis and reporting of energy savings.
- 1.9 Additional EEPD services include, but are not limited to, training of staff on maintenance and operations of systems, coordination and assistance to AHFC, and its technical program consultants in providing and sharing facility information, energy savings data and information to be entered into the Alaska Housing Finance Corporation Alaska Retrofit Information System (ARIS) database, resulting from implementation of energy improvements.

SECTION 2.0 DEFINITIONS

- 2.1 "Alaska Housing Finance Corporation": AHFC is a state owned corporation, and is partner to this solicitation. AHFC may fund some project development costs to subdivisions of local government to qualified participants of this solicitation.
- 2.2 "Baseline Energy Consumption": Energy Consumption for a specified time period to which future usage is compared.
- 2.3 "Department of Transportation and Public Facilities (DEPARTMENT)": the agency assisting AHFC with this Request for Statements of Interest and Qualifications.
- 2.4 "Energy Audit Documentation": describes the findings of the Energy Audit. It will provide detailed documentation of fieldwork for the Energy Audit, calculation input and output in support of the recommendations made, economic and engineering assumptions, sketches, floor plans and any other information developed in the course of the Energy Audit.
- 2.5 "Energy Consumption": means the amount (BTUs, KW, Kwh, CCF, etc.) of electrical energy and demand, natural gas, oil, propane, or other fuel, consumed in the Facility in any time period. Energy consumption may also include other utilities such as water and sewer.
- 2.6 "Energy Efficiency Measure (EEM)": the installation or modification of an installation in a facility which is primarily intended to reduce Energy Consumption or to allow use of an alternative energy source.
- 2.7 "Energy Efficiency Technical Assistance Center (EETAC)": housed at AHFC, staff will provide assistance to public facility owners who need a starting point and initial guidance to engage in energy efficiency retrofits. AHFC is in the process of creating the technical assistance center and contact information and weblinks will be made available to all qualified EEPDs as soon as the information is available.
- 2.8 "Energy Cost Savings": means savings in units of consumption (e.g. kWh, kW demand, therms, gallons) in a time period times the cost per unit of consumption for the time period. When applicable, Operations and Maintenance and other non-energy cost savings will be noted as additional savings. These savings will be real savings that will be realized through qualified and quantifiable analysis. (i.e. calculated savings with task measurement, budget comparison and/or stipulated baseline.)
- 2.9 "Energy Equipment": means equipment or structural components that influence Energy Consumption in the Facility.
- 2.10 "Energy Savings": means, for each form of energy for each Billing Period, the difference between the Baseline Energy Consumption for that Billing Period and the Energy Consumption actually incurred in that Billing Period.

- 2.11 "Existing Equipment and Operating Conditions": means the Energy Equipment and operating conditions that are identified in the Energy Audit as existing at the time of the Energy Audit.
- 2.12 "Facility": means the building(s) or facility(s) included in the Request for Proposal and described in the Energy Audit.
- 2.13 "Funding Source": means the private or public entity providing funding for the project. Funding Sources may include utilities, federal agencies, state agencies, or local entities. The Funding Sources may provide funding in the form of budgeted funds, grants, loans, and/or long-term incentive payments.
- 2.14 "Investment Grade Energy Audit": means the facility energy analysis conducted to identify Cost Effective EEMs. The Investment Grade Energy Audit provides detailed engineering investigation and report of a facility's current energy and water consumption, equipment condition, operation, performance, maintenance, energy baseline, potential energy and water efficiency upgrades, life cycle costs, and risks for future performance.
- 2.15 "Measurement and Verification (M&V)": The process for quantifying savings delivered by an Energy Efficiency Measure.
- 2.16 "Municipality": means every city, county, town, district (including school districts), regional education attendance area, tribal government, or other public agency thereof which is authorized by law to require the execution of public work. Municipality also refers to the specific entity entering into the Agreement.
- 2.17 "Owner": The entity who occupies the building or structure. This entity could be the same as the User Entity.
- 2.18 "Return on Investment (ROI)" – A common metric used to evaluate energy improvement decisions. To calculate ROI, the return is divided by the investment and the result is expressed as a percentage. For energy efficiency retrofits, this means the annual operational cost savings are divided by the project costs.
- 2.19 "Standards of Comfort": means, unless otherwise determined, those minimum air quality, volume, temperature, and lighting standards established by latest published editions of ASHRAE Standard 62 (Ventilation Standard for Acceptable Indoor Air Quality), ASHRAE Standard 55 (Air Quality and Comfort Standards and Thermal Environmental Conditions for Human Occupancy), All Related ASHRAE interpretations, Illuminating Engineering Society of North America Lighting Standards, and All applicable standards established by local building codes.
- 2.20 "User Entity": means the institution, municipality, school district, tribal government or subdivision of local governments or its authorized representative with the authority to enter into, administer, and/or terminate the work and make related determinations and findings. They are users of the list of prequalified Energy Efficiency Project Developers resulting from this Request for Statements of Interest and Qualifications.

SECTION 3.0 ENERGY EFFICIENCY PROJECT DEVELOPER SERVICES

- 3.1 The qualified EEPDs should be able to provide the following services as requested by the User Entity:
- 3.2 **Benchmarking and analysis** – Benchmark existing energy use and cost. Obtaining at least two years of data related to electric and fuel usage for the subject building. Set up an account in the Alaska Retrofit Information System (ARIS) or enter the data into the spreadsheet designed for this purpose for upload into ARIS. The spread sheet is titled “Energy Usage Entry Version 3.3 protected” and can be downloaded from the AHFC website. Basic information on the building such as location, age, type of use, size, additions or retrofits, hours of operation, and facility contact are collected, along with the two years energy use and cost.
- 3.3 **Walkthrough initial energy audits** – Perform an ASHRAE Level I energy audit. See Section 5.0 for more information. Walk through the building(s) identifying potential energy saving improvements. Provide a written report with a high-level energy usage analysis for the facility and detail the findings.
- 3.4 **More complex energy audits** – if steps indicate an energy efficiency retrofit project is potentially feasible or if the Owner has requested, the EEPD will call for a more complex energy audit. This will be an ASHRAE level II or level III investment grade audit, perhaps with some energy use modeling. See Section 5.0 for more information.
- 3.5 **Scope of work development** – Meet with the User Entity to discuss the potential energy savings measures, basic level cost estimates, and savings estimates. Review the list measure by measure and develop a scope for immediate projects, intermediate range projects, and a long term plan.
- 3.6 **Design of the project** – At the request of the User Entity, design EEMs that are identified in the energy audit. EEPD’s may be requested to assist in managing this phase of the project or may be requested to perform this work.
- 3.7 **Project management** – Small municipalities and school districts often have limited staff and capacity to manage construction/retrofit projects. As a part of the overall project, a project management plan needs to be developed to ensure smooth execution of the project and to minimize disruption of the services to the building and staff. EEPDs can assist with developing this plan and managing the project to meet the plan. Project management involves the whole process from initial contact with a client through project completion. Benchmarking, audits, procurement, financing, construction, measurement and verification, and possibly ongoing energy management services are all part of the package. The EEPDs should be capable of assisting and advising a client with all aspects of the project, and doing the work where the client lacks the capacity or expertise.
- 3.8 **Financing Advisement** – EEPDs will need to be able to assist their client in choosing one of the numerous funding and financing options available. EEPDs should be able to

illustrate the cost of delay under different funding timelines and give a professional recommendation on the source of capital that is the best fit for the needs of the client.

- 3.9 **Procurement Assistance** – An EEPD can advise owners in deciding which contracting approach to use, taking the first steps to head down that path and guiding them through various stages of their selected approach. The EEPDs may have to provide advisement to the contracting agency to help them do the proper procurement and obtain quality services at a reasonable price. The EEPDs may need to assist in definitions, help specify qualifications, and evaluate to select potential contractors. EEPDs may also be involved in project pricing and negotiation, determining terms and conditions, setting standards and ensuring quality control.
- 3.10 **Measurement and verification (M & V) services or assistance** – Once the building is set up properly for operation, energy use measurement and verification is usually needed to ensure the savings defined in the audit and scope of work is realized. Depending on the terms of their contract, EEPDs may be retained to manage several years of Measurement and Verification. EEPDs should be prepared to provide M&V services for any work included in the energy audit.
- 3.11 **Building Monitoring Assistance** – Provide assistance and resources to the owner and develop a building monitoring plan including, but not limited to, developing a contract with a building monitoring contractor or using open source building monitoring code, such as the one available from AHFC.
- 3.12 **Project analysis** – At the end of a project, have a final meeting and prepare a final report that evaluates the success of the project and details what worked, what did not, if estimates of savings and costs are in line with what actually happened, problems, barriers, things to do better next time and other recommendations.
- 3.13 **Commissioning** - For new construction or renovation projects, develop a commissioning plan that can be used to ensure the proper installation and function of the new features. Assist the User Entity by helping develop a contract with a Commissioning Agent and/or a contractor to implement the plan or by helping the User Entity implement the plan with their own personnel.
- 3.14 **Retro-commissioning** –Retro-commissioning is done on existing buildings as an energy efficiency measure. Develop a retro-commissioning plan to be implemented as part of the project. Assist the User Entity to implement the plan by either developing a contract for a contractor or performing the work with the User Entity's own personnel.
- 3.15 **Construction management** – Act as the User Entity's Representative through all phases of bidding, construction, commissioning, and closeout. Coordinate with the contractor on behalf of the User Entity. Attend meetings, review submittals, inspect the work, and approve payment requests.
- 3.16 **Ongoing energy management** – upon completion of a project, the EEPDs should be able to coordinate energy management services for the client to assist them in maintaining energy efficiency improvements over time. These services would include obtaining commissioning and retro-commissioning services, continued energy monitoring, installation and analysis of building monitoring systems.

- 3.17 **Maintenance Management and Operations** –EEPDs should be capable of assisting clients with setting up and operating maintenance plans for future protection of assets.
- 3.18 **Technical assistance** – Provide technical assistance to communities or regions to facilitate energy efficiency planning efforts, coordination between various building owners and contractors, benchmarking, assessing financing options, assisting in the creation of memorandum of agreements (MOAs), maintenance and or energy management services, connecting to business/financial management services like the AHFC Energy Efficiency Technical Assistance Center (EETAC), the Rural Utility Business Advisor (RUBA) through DCCED and other services related to energy use.
- 3.19 **Energy Efficiency Planning** – assist clients with energy planning for their future. Specify current costs, ascertain most likely areas for improvements, assist clients with development of a plan for controlling future energy use to reduce risk exposure to energy price volatility, including fuel purchases, energy efficiency improvements, renewable energy source analysis, etc.
- 3.20 **Hazardous Materials Management** – Provide a plan for handling known and unknown hazardous materials at each project location. Be able to assist the User Entity in finding a hazardous materials abatement contractor, as required by the scope of work.

SECTION 4.0 ENERGY AUDITS

4.1 The EEPD should perform an Energy Audit as described in this section for facilities as identified by the User Entity. The Energy Audit should identify all cost effective Energy Efficiency Measures that result in a net simple payback of energy savings within 15 years, or as requested by the User Entity.

4.2 Types of Energy Audits and Timeframe to Deliver.

- A. Walk-Through Audit – Compliant with an ASHRAE Level I audit. Tour the facility(ies) identified in the specific project RFP and inspect each energy using system. Perform an analysis of energy consumption and patterns and compare to industry averages or benchmarks of similar buildings. Provide a list of preliminary Energy Efficiency Measures, and include a preliminary estimate of energy savings. Should be delivered within 30 calendar days.
- B. Standard Audit – Compliant with ASHRAE Level II audit. This audit expands the Walk-Through Audit through a more detailed review and analysis of equipment, systems, and operational characteristics. Some on-site measurement and testing to quantify energy use and efficiency may be required. Provide a more detailed and refined estimate of energy savings and implementation costs for each Energy Efficiency Measure. Should be delivered within 60 calendar days.
- C. Investment Grade Energy Audit – Compliant with ASHRAE Level III audit. Most in-depth Energy Audit and, including a comprehensive review and analysis of energy use patterns. This audit may use a computer simulation of the facility and the proposed Energy Efficiency Measures. The proposed energy savings and implementation costs for each Energy Efficiency Measure should be detailed and refined enough to be the basis of a loan application for financing of the project. Should be delivered within 120 calendar days. Where feasible, the AKWarm software should be used for modeling, and the file uploaded to the Alaska Retrofit Information System (ARIS) Database.

4.3 **Types of Energy Efficiency Measures (EEMs).** For all energy audit types, the EEPD should consider EEMs in a comprehensive approach for whole facility energy retrofits and should include, but not be limited, to the below categories.

- A. The associated general category numbers should be used to identify EEMs in the Energy Audit. (Specific EEMs falling under a general category should utilize sub category identifications such as “1.A for Interior Lighting Upgrades”, etc.)
 - 1) Lighting Improvements (Category 1)
 - 2) Heating Plant Improvements (Category 2)
 - 3) Cooling Plant Improvements (Category 3)
 - 4) HVAC System Improvements (Category 4)
 - 5) Building Automation and Control Systems Improvements (Category 5)

- 6) Building heating or cooling distribution systems (Category 6)
- 7) Electric Motors and Drives (Category 7)
- 8) Water Consuming Systems (Category 8)
- 9) Building Envelope Improvements (Category 9)
- 10) Renewable Energy Systems (Category 10)
- 11) Miscellaneous Systems (Category 11)
- 12) Energy Related Process Improvements (Category 12)
- 13) Distributed Generation (Category 13)
- 14) Energy and Utility Distribution Systems (Category 14)
- 15) Electrical Peak Shaving / Load Shifting (Category 15)
- 16) Energy Cost Reduction Through Rate Adjustments (Category 16)
- 17) Commissioning Services (Category 17)

4.4 **EEM and Water Conservation Measure Restrictions.** EEMs proposed to be installed will not:

- A. Degrade performance or reliability of existing facility equipment or operations
- B. Adversely effect upon the quality or safety of the facilities occupant or dedicated equipment environments
- C. Adversely affect future growth, mission needs, or emergency back-up of the facility.
- D. Be used for solely for maintenance or capital improvements, unless EEMs are directly incorporated, i.e., additional insulation included in a roof replacement.

4.5 **Allowable Savings.** The following are allowable savings factors approved for consideration in the in the Energy Audit. Any savings related to maintenance and operations should be limited to only those that can be documented thoroughly.

- A. Energy savings, water and waste water savings, and solid waste reduction.
- B. Material, equipment, and commodity savings.
- C. Maintenance and Operations

4.6 **Estimation of Energy Efficiency Measure Construction Costs.** EEPD will provide estimates of all costs for the construction of each energy efficiency measure.

4.7 **Energy Audit Content.** The Investment Grade Energy Audit will contain all of the following content at a minimum. All other energy audits should follow the same basic format and contain as much of the following content as appropriate.

- A. Overview Section. The executive summary of the proposed project to include the Summary of baseline annual energy and water consumption and costs
 - 1) Introduction to the project.
 - 2) The Annual Energy Savings and Energy and Labor Cost Savings that are expected to result from the proposed EEMs implemented by the EEPD. For an example see Schedules in Exhibit B-2.

- 3) The construction project estimate, simple payback, and return on investment.
 - 4) Summary table of proposed EEMs
 - 5) Carbon Reduction that would be achieved by implementing the proposed EEMs.
 - 6) Future action items.
- B. Energy Baseline Section. The Baseline Energy and Water Consumption for the Facility including:
- 1) The utility use data and rate schedules
 - 2) The Energy use index (EUI)
 - 3) Monthly consumption data and graphic profiles
 - 4) Demand data and graphic profiles
 - 5) Methodology and variables used to compute the Baseline
 - 6) The Baseline calendar period which should not be less than twenty-four (24) months, and proposed methods for making modifications to the baseline.
 - 7) The avoided utility costs to be used in calculations.
- C. Facilities Description Section. A description of the Facility and building systems and a description of which will receive EEPD Equipment and EEPD Services.
- 1) Include any facility deficiencies in envelope, mechanical, electrical systems, or operation of systems which may affect future building operation and maintenance and implementation of cost effective EEMs throughout the life of the agreement.
 - 2) Operating schedules and occupancy patterns.
 - 3) Include the Standards of Comfort and service appropriate for the Facility.
- D. Proposed Energy Efficiency Measures (EEM) Section: The detailed description of the EEMs analyzed.

Include the baseline, energy savings, and cost savings per measure in tabular format to provide information similar to the following:

EEM X Proposed Annual Energy Savings

	Energy/Water Consumption (Kwh, KGal, MMBTU etc.)	Energy/Water Consumption (Kwh, KGal, MMBTU etc.)
Baseline		
Proposed		
Savings		

EEM X Proposed Annual Energy Cost Savings

	Energy/Water Cost	Energy/Water Cost
Baseline		
Proposed		
Savings		

Include the method by which Energy Savings and Energy and Labor Cost Savings will be calculated.

- E. Project Price Estimate Section: The construction project estimate, itemized in detail to provide all project costs.
- 1) Design estimate
 - 2) Construction estimate
 - 3) Procurement estimate
- F. Project Financing Section: A description of options of how the User Entity may finance its acquisition of the EEMs including all terms and rates of financing. A projected cash flow, with estimated energy cost savings for the life of the EEMs should be provided. Project funding and financing information will be incorporated at the direction of the User Entity.
- G. Measurement and Verification Plan Section: For projects requiring Measurement and Verification services, the EEPD should include a site and EEM specific Measurement and Verification (M&V) Plan with its Investment Grade Energy Audit. The M&V Plan should follow the International Performance Measurement and Verification Protocol (IPMVP) and specify the M&V options and methods that will be used for each proposed EEM. The M&V plan and submittals should include, but not be limited to the following activities:
- 1) Pre-implementation Baseline Conditions: As part of the Investment Grade Energy Audit, the development of baseline energy use of equipment and/or systems to be affected by proposed EEMs. Actions to determine baseline conditions may include site surveys, metering or data logging, utility bill data analysis, and/or engineering calculations.
 - 2) Post-installation M&V Plan: As part of the Investment Grade Energy Audit, the site specific planned M&V activities to determine post installation energy usage of equipment and/or systems to be affected by implemented EEMs. Planned M&V activities to determine post installation energy use may include site surveys, metering or data logging, utility bill data analysis, and/or engineering calculations.
 - 3) Post Installation M&V Report: verifying that implemented EEMs achieve the annual energy and water savings.
 - 4) Annual M&V Report: submitted to the User Entity including data and calculations that demonstrate the implemented EEMs continue to achieve the annual energy and water savings.
- H. Appendix Section: Energy Audit Documentation including all data and assumptions used for analyses, providing:
- 1) Description of fieldwork and data collection methodologies
 - 2) Supporting calculations
 - 3) Detailed lighting and water fixture counts
 - 4) Energy model data (AKWarm-C, if feasible)
 - 5) Floor plans, sketches, preliminary designs
 - 6) Manufacturer equipment cut sheets for all proposed installed EEMs.
 - 7) Cost estimates

4.8 To enable the EEPD to prepare the Energy Audit, the User Entity or Owner will provide:

- A. Access to the Facility for the EEPD's staff will be provided with a 72 hour notice;
- B. The Facility's energy bills for at least two years.
- C. Data on the Facility's variables, such as occupancy rate, which may affect the Facility's Energy Consumption;
- D. Equipment logs and maintenance schedules, if available;
- E. Any energy audits that have been conducted within the last five years;
- F. A description of the energy management practices presently in use at the Facility; and,
- G. A description of future plans for the Facility including planned remodels, additions, demolition and other major Facility changes.

SECTION 5.0 OTHER ENERGY EFFICIENCY SERVICES

5.1 EEPDs may be tasked to provide any individual services to improve energy efficiency in the User Entity's facilities outside those described in Section 3. These services may include:

- A. Project education for community leaders – City council, school board, tribal government and native corporation leaders all may have some decision making capacity in moving a project forward. EEPDs should be prepared to discuss and educate these leaders in the process of improving facilities.
- B. Training – If existing equipment is not planned for replacement, training maintenance and operations staff in the efficient use of equipment may be necessary to improve efficiency. These trainings may include, but not be limited to, use and operation of automation systems, heating systems, ventilation systems, lighting controllers, etc.
- C. Coordination of multiple owners - Many communities have multiple owners of non-residential buildings. Community meeting among these owners and coordination among owners to improve economies of scale may improve the cost-benefits of the project.

Exhibit 1: Instructions for Downloading Energy Usage Entry Version 3.3

Step 1: go to the following website: <https://www.ahfc.us/efficiency/research-information-center/energy-efficiency-public-facilities/>



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Energy

Energy Programs

Energy Rater/Inspector List

Research Information Center Library

AirWarm Energy-Rating Software

Alaska Housing Market Indicators

BEES - Alaska Building Energy Efficiency Standard

Energy Efficiency in Public Facilities

In 2010, Alaska's Legislature passed HB 306 establishing a statewide energy policy including the goal of "decreasing public building energy consumption through...energy-efficient technologies."

Since then, the Alaska Housing Finance Corporation (AHFC) benchmarked more than 1,200 public facilities, implemented 327 comprehensive audits and published a White Paper on Energy Use in Alaska's Public Facilities.

The following reports and appendix evaluate the energy efficiency of public buildings in Alaska by analyzing data from nearly 750 buildings from around the state. The reports analyze the actual and estimated energy use and costs in these publicly funded buildings and provide technical and policy recommendations to reduce those costs through energy efficiency.

Step 2: Scroll down on the page until you find the Benchmarking section.

Step 3: Click on the link titled "REAL Benchmark Form", indicated by the arrow in the screen shot below, to download the Excel file.

Cash Flow Calculator
Class Materials
Energy Efficiency in Public Facilities
Fact Sheets and Information
Friends of the RIC
Housing Assessment
Manuals, Forms and Applications
Request a Speaker

Energy Efficiency NOW Conference 2016

Strategic Energy Management Practices

The guide introduces public facility owners and managers to tools and resources that can be used to complete successful energy efficiency retrofit projects. The processes of procuring and implementing energy efficiency retrofit projects are complex; however, when properly structured they can drive down costs and reduce inefficiencies for public entities. This guide will assist public facility owners and managers through the multidisciplinary nature of each step of the process, from energy auditing to public contracting to project financing.

Introduction to Energy Efficiency: A Guide to Managing Energy Use in Public and Commercial Facilities

This guide provides public facility, commercial building, and small business owners with a starting point for addressing energy use in existing facilities and recognizing energy efficiency as an energy source.

Hard Copies are available at the Research and Information Center at the AHFC Central Office, or by contacting bhall@ahfc.us.

Benchmarking

By benchmarking a facility, owners and managers are able to see trends in a building's energy use and operating costs. Owners can benchmark their facility by completing the [REAL Benchmark Form](#).

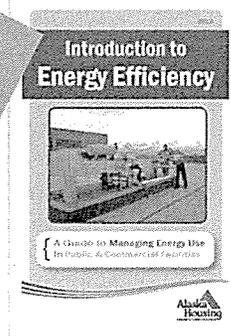


EXHIBIT 2 ENERGY EFFICIENCY PROJECT DEVELOPER SCHEDULES

___ Proposed
___ Final

Facilities:		EEPD Name:														
Project Capitalization		Applicable Financial Index:														
Total Implementation Cost	\$	Term (Years):										Issue Date:				
Financing Procurement Price (\$)	\$	Index Rate:										Source:				
Pre-Performance Period Payments	(\$	Added Premium:)									Effective Through:				
Total Amount Financed		Project Interest Rate:		0	1	2	3	4	5	6	7	8	9	10	TOTAL	
Annual Cash Flow (Performance Period)																
Facility Owner Capital Contribution (A)																
Debt Service																
Interest (\$)																
Principal Repayment (\$)																
Total Debt Service (B)																
Performance Period Expenses																
Management/Administration																
Operation																
Maintenance																
Repair and Replacement																
Measurement and Verification																
Permits and Licenses - Not Included																
Insurance - Not Included																
Property Taxes - Not Included																
Total Performance Period Expenses (C)																
TOTAL ANNUAL PAYMENTS (A)+(B)+(C)																

Notes:

- (1) Performance Period Expenses shall include only direct costs, and no implementation period expenses.
- (2) Contractor shall attach adequate supporting information detailing total performance period expenses (direct costs), in Attachment A to the Investment Grade Audit.
- (3) If applicable, contractor shall specify escalation rate applied to performance period expenses: _____%.
- (4) If applicable, pre-performance period payments will be applied in year Zero to reduce principal repayment.
- (5) Extend term columns to include all years of Performance Period using additional pages as necessary.

EXHIBIT 2 ENERGY EFFICIENCY PROJECT DEVELOPER SCHEDULES ESTIMATED ANNUAL COST SAVINGS ___ Proposed AND ANNUAL PAYMENTS ___ Final			
Facility Name:		Contractor Name:	
Performance Period Year	A IGA Proposed Annual Cost Savings (\$)	B Estimated Annual Cost Savings (\$)	C Annual Payments (\$)
Construction Period			
One			
Two			
Three			
Four			
Five			
Six			
Seven			
Eight			
Nine			
Twelve			
Fourteen			
Fifteen			
Totals	\$	\$	\$
Notes:			
(1) The first year (Year One) Investment Grade Audit (IGA) Proposed Annual Cost Savings reflect technical proposal and engineering estimates as presented in CS-2. (2) The "Estimated Annual Cost Savings" are based on the site-specific M&V plan. (3) The total of Annual Payments represents the total project cost and should be supported by information submitted in and provided with Schedules CS-1 and CS-3, and their required supporting documentation. (4) If applicable, pre-performance period payments will be submitted for year Zero. (5) The Estimated Annual Cost Savings must exceed the Annual Payments (except year zero) for each year of the performance period. (6) Escalation rates applied to IGA Proposed Annual Cost Savings in column (a) as follows: a. Energy Savings: ____ % per year b. Energy-related O & M Savings (including water and sewer): ____ % per year			

Exhibit 3 – Map of Alaska – Regions of Work

- 1. Statewide
- 2. Far North
- 3. Interior
- 4. Southwest
- 5. Southcentral
- 6. Southeast

