AHFC Energy Efficiency Monitoring Research **FY2015 Request: $750,000**
Reference No: 6351

AP/AL: Appropriation
Project Type: Energy
Category: Development
Location: Statewide
House District: Statewide (HD 1-40)
Impact House District: Statewide (HD 1-40)
Contact: Les Campbell
Estimated Project Dates: 07/01/2014 - 06/30/2019
Contact Phone: (907)330-8356

Brief Summary and Statement of Need:
This project provides funding for a designated grant to the Cold Climate Housing Research Center (CCHRC) to conduct housing construction research, analysis, and information dissemination among the housing industry and the public. Data gathering and analysis is being continually related to energy efficiency technology for homes constructed in northern building and market conditions.

Funding:	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	Total
AHFC Div			$2,000,000	$2,000,000	$2,000,000	$2,000,000	$8,000,000
Gen Fund	$750,000	$1,500,000					$2,250,000
Total:	$750,000	$1,500,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$10,250,000

☐ State Match Required ☐ One-Time Project ☐ Phased - new ☐ Phased - underway ☑ On-Going
0% = Minimum State Match % Required ☐ Amendment ☐ Mental Health Bill

Operating & Maintenance Costs:

	Amount	Staff
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	
Totals:	0	0

Prior Funding History / Additional Information:
Sec1 Ch16 SLA2013 P76 L28 SB18 $750,000
Sec1 Ch17 SLA2012 P130 L17 SB160 $1,000,000
Sec1 Ch5 SLA2011 P98 L11 SB46 $1,000,000
Sec7 Ch43 SLA2010 P34 L11 SB230 $1,000,000
Sec1 Ch15 SLA2009 P19 L28 SB75 $1,000,000
Sec13 Ch29 SLA2008 P156 L17 SB221 $1,000,000

Project Description/Justification:
The purpose of this project is to conduct research, analysis, information dissemination, and interchange among members of the industry, as well as between the industry and the public.

The projected outcomes are:
- Conducting research, analysis, information dissemination and interchange among members of the industry, and between the industry and the public;
- Gathering data and performing analysis of geographically diverse area energy-efficient designs for homes; and
- Monitoring homes for energy usage, comfort levels, durability, occupant health, and economic benefits of efficiency features.

Program Description:
This program funds monitoring and testing of energy efficiency designs, products, and construction technology tests in areas where little is being done in the Alaskan arena. Considering the diverse building conditions and requirements across the state, the home building industry has indicated they would like to see research and testing of energy efficiency designs in different regions of the state.

Energy Efficiency (EE) in Alaska is an energy resource. The Alaska Housing Finance Corporation is required by state law to purchase homes that meet minimum energy efficiency standards. The State of Alaska and the Corporation have established and funded incentive programs for increased energy efficiency in homes and public facilities. CCHRC is an integral partner with AHFC to help maximize this resource, determine best EE practices, techniques and materials; how effective certain energy efficiency designs have been across Alaska's climate regions; and scoping out promising technologies for the future.

Funds requested here are used to conduct research, analysis, and implementation. CCHRC also provides information dissemination and facilitates interchange among members of the building industry as well as between the industry and the public.

The following will be provided through the CCHRC:

- Data gathering and analysis of energy efficient designs for homes. Alaska has a wide range of climates and temperatures, with everything from coastal rain forests to arctic tundra.
- Energy efficiency designs and technologies for homes need to address climactic conditions in each of these regions across the state.
- Homes with different energy efficiency designs would be monitored for energy usage, comfort levels, durability, occupant health, and economic benefit of efficiency features. Different regions of Alaska would be monitored along with different energy efficiency designs.

Activities should have a high level of effectiveness and success based on three reasons:

1. **Programs and projects will be results-oriented.** Home building is a practical activity. Monitoring research and analysis should seek workable answers to real problems of home building and to real ways to improve homes across Alaska. Future trends and developing technologies need to be considered, with an emphasis on the impact that such trends and technologies will have on the way the homes are actually built.

2. **Contact with the real world of home building needs to exist by having some ties to the state home building industry.** In addition to a statewide association, local home building associations exist in Anchorage, the Kenai Peninsula, Ketchikan, Juneau, Interior Alaska, Mat-Su, and Kodiak. These associations could provide a grassroots network of cooperating builders. When research is launched, builders would be expected to provide direction on specific questions, technologies, designs, and to cooperate in studies and field tests.

3. **Research and analysis flow directly into the building industry and the public.** Monitoring results would be expected to help link the research and product development communities with the practitioners who put methods into practice and products into use. The involvement of the building industry is intended to increase builder's confidence in the findings. All results and

analyses would be publicized and disseminated throughout the housing industry, creating a favorable climate for the adoption of desirable change.

CCHRC's Cold Climate Building Infrastructure Research and Testing Facility (RTF) is located in Fairbanks, Alaska. CCHRC is a 501c(3) corporation founded by members of the Alaskan homebuilding industry. The RTF is a research and testing facility which is, in itself, a set of research and demonstration projects with over 600 sensors monitoring each component in the building from the foundation to the roof. Project deliverables include: ongoing web-based performance reports, final report, PowerPoint presentation, and provides information and recommendations on renewable energy systems, passive refrigeration, masonry heating systems, EE software development, and associated databases, biomass heating systems, EE standards, rural housing and community design.