



Peoria Housing Authority  
3606 Sencay Avenue  
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Peoria Housing Authority (PHA)  
Weatherization Training Project

Final Report

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1. Award No. EE0002530  
Recipient Peoria Housing Authority
2. Project title Peoria Housing Authority (PHA) Weatherization Training Project  
Project Director Jason Dollarhide 918-542-1873
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The Peoria Housing Authority is the Tribally Designated Housing Entity (TDHE) for both the Peoria Tribe of Indians of Oklahoma (Peoria Tribe) and the Ottawa Tribe of Oklahoma (Ottawa Tribe). The DOE Weatherization Training Project will be administered at PHA headquarters in Miami, Ottawa County, Oklahoma. The PHA serves Peoria, Ottawa, and other eligible American Indian residents of Ottawa and Delaware counties in northeastern Oklahoma. Eleven tribes are located in Ottawa and Delaware counties, the single highest concentration of tribes in the lower 48 states.

The Peoria Housing Authority is committed to reducing the use of non-renewable energy and carbon emissions, to increasing the use of renewable energy sources, to overall conservation of natural resources, and to leading by example to encourage others to do the same. The PHA has identified several energy-efficiency goals, including conversion of PHA vehicles to dual fuel capability and building low-energy-consumption housing units. The PHA goal relevant to this project is the establishment and implementation of a successful Weatherization Program by 2011. The PHA Weatherization Training Project is designed to enable fulfillment of the PHA's goal. Indeed, the most important component to establishing and implementing a Weatherization Program is the acquisition of quality training for PHA program managers and technicians.

#### **4. Executive Summary**

The DOE Weatherization Training grant assisted Native American trainees in developing weatherization competencies. The seven trainees completed all the necessary training for certification and practiced the techniques they learned on homes owned by Peoria Housing Authority. Training was provided by the Building Science Academy. Based in Michigan, Building Science Academy is a privately held training school that specializes in training energy auditors, raters, and contractors for energy and weatherization performance standards.

## **5. Project overview**

The PHA Weatherization Training Project allowed the Peoria Housing Authority to build skills and capabilities necessary to establish and implement a weatherization program by developing human capacity. This project promoted tribal energy efficiency. We are now positioned to provide weatherization services to our tribal government, tribal members, neighboring tribal governments and members of neighboring tribes as well as to other individuals and organizations.

The Peoria Housing Authority is committed to reducing the use of non-renewable energy and carbon emissions, to increasing the use of renewable energy sources, to overall conservation of natural resources, and to leading by example to encourage others to do the same. The PHA Weatherization Training Project was designed to enable fulfillment of the PHA's goal. We believe that the most important component to establishing and implementing a Weatherization Program is the acquisition of quality training for PHA program managers and technicians.

## **6. Project objectives**

The DOE Weatherization Project's goal was to obtain a solid foundation of administrative and technical knowledge so that the PHA can establish and implement a successful Weatherization program. The objectives were to build PHA's capabilities by developing its staff members' capacities via the acquisition of weatherization skills and competencies.

The impacts from this project include:

- (a) the improvement and expansion of PHA staff skills,
- (b) the overall enhancement of the quality of the PHA workforce, which will
- (c) foster employment,
- (d) the ability to properly weatherize PHA housing stock, tribal buildings, and tribal members' houses, which will
- (e) result in reduced energy use, and
- (f) improved tribal and household economies.

## **7. Description of Activities Performed**

The seven staff members who received training under the Tribal Weatherization Grant included one management person and six technical crew personnel. We were able to bring the training to our Miami, OK location through the services of Building Science Academy. All of the trainees were permanent employees who will continue to provide building maintenance, repair, and construction and will be able to integrate their weatherization skills into their current duties.

The training provided by Building Science Academy was:

Track 1:

Weatherization Specialist: The Weatherization Specialist (8) day class provided weatherization installers with a solid background in air sealing tasks and insulation

materials and techniques for performing air sealing and insulation on residential buildings along with incorporating advanced use of a blower door to perform blower door guided air sealing. The course included the knowledge necessary to perform surveys of single or multifamily dwellings and identifying weatherization issues and methods to not only identify the problem but provide a solution to correct the issue. It presented the scientific foundation upon which installers can apply their hands-on skills, and outlined in detail some of the best installation practices. Additional subject material included a basic understanding of building science in regards to airflow, heat flow and moisture flow, job site and combustion safety training and testing, and the introduction of multifamily and mobile home fundamentals. This program and curriculum were designed using the curriculum guidelines specified by the U.S. Department of Energy (DOE) Weatherization Assistance Program Installer Curricula. Certification through Building Performance Institute (BPI) was also available for this course. The certification attained was the Residential Building Envelope Whole House Air Leakage Control (RBEWHALC).

Track 1 was broken down into (2) sections:

**Air Sealing and Insulation:** (4 days) Air Sealing and Installation class was a Building Performance Institute Certification class which also required a field examination.

**Weatherization Basics** (3 days) Weatherization basics covered introduction to weatherization, mobile and multi-family basics and combustion safety testing and blower door guided weatherization measures.

Track 2:

**Advanced Training Courses:**

**Blower Door** (3 day course) this training taught the student Blower Door principles, zone pressure testing as well as computer assisted Blower Door procedures and operations. The students also learned the Advanced Blower Door techniques needed to air seal a home.

**Health and Safety Training** (4 day course)

Health and Safety This training covered jobsite safety training and also the students learned the procedures of combustion safety testing as well as the importance of testing. They learned the procedures for Combustion Appliance Zone (CAZ) depressurization testing, combustion appliance testing, gas leak testing, and computer assisted combustion safety testing.

**Track 3:**

**Heating Specialist Introduction:** This (3) day course covered the following; introduction to forced air heating, forced air conditioning, hydronic heat systems, in floor radiant heat, air to air heat pumps, and geothermal systems. This course also got into basic humidification and dehumidification and an introduction to ventilation.

Heating Specialist Advanced: This (3) day course used a "whole house" performance-based approach, this training covered advanced heating system diagnostic, evaluation, and repair skills. Training included review of some Building Analyst topics, but focused more toward the HVAC system side. This course covered the fundamental elements of a HVAC system in relation to the basics of combustion and proper equipment set up, venting and drafting of different types of appliances, oil fired space heating set up for optimum efficiency, pressure diagnostics as it relate to the HVAC system and the impact it has on the home, along with all the industry standard design requirements needed for a optimum working HVAC system in regards to heat loads, duct design, and minimum airflow.

**Track 4:**

Field Mentoring: This class included 4 days of classroom and field time. The class took 2 days to complete field assessments in a group. Initial assessments were conducted with BSA staff directly involved for questions, problems, or any other issues. Upon completion of assessments all students met with BSA for 2 days of presentations, reviews, analysis and feedback.

**Conclusions and Recommendations**

We appreciate the opportunity afforded to us by the Weatherization training projects. The training received was of a very complete and professional nature which will make a lasting impact on the students. They learned many valuable techniques which PHA will be able to apply to future weatherization projects.