



State of Ohio
Weatherization Program
Standards

Section	ADMINISTRATION
Subject	Prioritization Standards

*TASKS AND ANALYSIS FOR PREPARING THE REPORT
906*

The firm selected to perform the audit shall thoroughly evaluate utility, energy, water and sewage costs, and consumption, demand and time-of-use data in order to properly evaluate the economics of specific energy efficiency measures and to formulate an accurate energy/demand baseline. The baseline shall be weather-normalized using a heating degree-day adjustment factor and shall be based on at least 12 months, but preferably 2 years of utility data.

**energy consumption
and facility data**
906-1.1

The firm shall compile and deliver to the HWAP provider an inventory based on a physical inspection of the major electrical, plumbing, HVAC and other mechanical systems, as well as building shell systems including:

**inventory existing
systems and
equipment**
906-1.2

- a. cooling and cooling distribution systems and related equipment,
- b. heating and heat distribution systems,
- c. automatic temperature control systems and equipment,
- d. outdoor ventilation systems and equipment,
- e. exhaust systems and equipment,
- f. domestic hot and cold water systems,
- g. electric motors, transmission and drive systems,
- h. interior and exterior lighting,
- i. water usage equipment,
- j. rated and performance insulation values at walls, floors, and attics; and
- k. estimated natural infiltration rate for all buildings.

The firm shall evaluate the following data for performing the inventory:

inventory data
906-1.3

- a. the actual loads, proper sizing, operating efficiency, and hours of operation for each system,
- b. a list of major air leakage sites and description of how natural infiltration was estimated,
- c. current operating condition for each system,
- d. remaining useful life of each system (exclusive of premature equipment failure),

**inventory data
(cont'd)**
906-1.3

- e. a catalog of current indoor air quality and comfort problems in the buildings; and
- f. an evaluation of feasible replacement/upgrades to address the efficiency, indoor air quality and comfort concerns that were identified.

survey
906-1.4

The firm shall work with the HWAP provider and the building management to develop a questionnaire to be used in conducting interviews with building operation and maintenance staff regarding the mechanical systems operation, occupancy and building-use patterns and problems with comfort levels or equipment reliability as defined and identified by the operation and maintenance staff. It is expected of the building management that all systems such as those listed above shall be fully disclosed to the firm.

**list energy efficiency
measures**
906-2.1

The firm shall:

diagnostic testing
906-2.1a

Perform diagnostic testing on a representative sample of buildings and equipment to determine current building performance. This sample will not exceed 10% of apartments or individual heating systems, but will include 100% of central heating systems. These tests shall include combustion appliance zone testing for back drafting potential:

- 1) standard and worst-case draft testing,
- 2) blower door testing to determine infiltration,
- 3) pressure testing for connections between apartments, apartments and attics, and apartments and crawl spaces,
- 4) combustion efficiency analysis; and
- 5) carbon monoxide ambient and flue gas testing.

Tests shall be performed in accordance with the WPS Section 1506.

identify EEMs
906-2.1b

Identify potential EEMs for installation or implementation at the building, including potential solutions for indoor air quality and comfort concerns.

estimate costs
906-2.1c

Estimate the EEM costs, including an itemized listing of design, engineering, installation and hardware costs and any other costs outlined below;

- 1. dollar, consumption, and demand savings on a monthly basis, **estimate costs (cont'd)**
- 2. life expectancy of each proposed EEM. **906-2.1c**

Data shall be presented by measure and in total, in terms showing interaction of measures. The firm shall provide life-cycle cost, net present value and savings-to-investment ratios for each energy efficiency measure and for the EEM package as a whole. **describe maintenance procedures 906-2.1d**

Specify and describe impacts on building operations and maintenance procedures that will be affected by the installation/implementation of the proposed EEMs. **estimates of project cost 906-3.1**

The firm shall provide detailed estimates of all costs and energy savings associated with the project, including, but not limited to:

- a. engineering/design costs
- b. contractor/vendor estimates for EEMs (labor, materials, equipment)
- c. construction management
- d. maintenance/monitoring services
- e. commissioning
- f. training
- g. estimated financing costs
- h. estimated monitoring services
- i. savings guarantee options and costs

The preliminary audit report shall include all items outlined in Section 906. The firm will present this report to the HWAP provider at a meeting at a date and location to be determined by the HWAP provider. At this meeting, the firm will work with the HWAP provider, in consultation with OEE staff, to rapidly finalize chosen measures EEMs. **the audit report 906-4.1**