

**§ 434.503**

**10 CFR Ch. II (1–1–06 Edition)**

Cost by summing the 12 monthly Energy Cost Budgets. Each monthly Energy Cost Budget is the product of the monthly Building Energy Consumption of each type of energy used multiplied

by the monthly Energy Cost per unit of energy for each type of energy used.

502.2 The Energy Cost Budget shall be determined in accordance with Equation 502.2.a as follows:

$$ECB = ECB_{jan} + \dots + ECB_m + \dots + ECB_{dec} \quad (\text{Equation 502.2.a})$$

Based on:

$$ECB_m = BECON_{m1} \times ECOS_{m1} + \dots + BECON_{mi} \times ECOS_{mi} \quad (\text{Equation 502.2.b})$$

Where:

ECB = The annual Energy Cost Budget  
ECB<sub>m</sub> = The monthly Energy Cost Budget  
BECON<sub>mi</sub> = The monthly Budget Energy Consumption of the i<sub>th</sub> type of energy  
ECOS<sub>mi</sub> = The monthly Energy Cost, per unit of the i<sub>m</sub> type of energy

- (h) Health/Institutional; and
- (i) Multi-Family.

502.3 The monthly Energy Cost Budget shall be determined using current rate schedules or contract prices available at the building site for all types of energy purchased. These costs shall include demand charges, rate blocks, time of use rates, interruptible service rates, delivery charges, taxes, and all other applicable rates for the type, location, operation, and size of the proposed design. The monthly Budget Energy Consumption shall be calculated from the first day through the last day of each month, inclusive.

**§ 434.504 Use of the prototype building to determine the energy cost budget.**

504.1 Determine the building type of the Proposed Design using the categories in subsection 503.1. Using the appropriate Prototype Building characteristics from all of the tables contained in Subpart E, the building shall be simulated using the same gross floor area and number of floors for the Prototype Building as in the Proposed Design.

504.2 The form, orientation, occupancy and use profiles for the Prototype Building shall be fixed as described in subsection 511. Envelope, lighting, other internal loads and HVAC systems and equipment shall meet the requirements of subsection 301, 401, 402, 403, and 404 and are standardized inputs.

**§ 434.503 Prototype building procedure.**

503.1 The Prototype Building procedure shall be used for all building types listed below. For mixed-use buildings the Energy Cost Budget is derived by allocating the floor space of each building type within the floor space of the prototype building. For buildings not listed below, the Reference Building procedure of § 434.505 shall be used. Prototype buildings include:

- (a) Assembly;
- (b) Office (Business);
- (c) Retail (Mercantile);
- (d) Warehouse (Storage);
- (e) School (Educational);
- (f) Hotel/Motel;
- (g) Restaurant;

**§ 434.505 Reference building method.**

505.1 The Reference Building procedure shall be used only when the Proposed Design cannot be represented by one or a combination of the Prototype Building listed in subsection 503.1 or the assumptions for the Prototype Building in Subsection 510, such as occupancy and use-profiles, do not reasonably represent the Proposed Design.