

HVAC - Energy Savings through Design Practices

Division 230000–3

The Division of Engineering and Contract Administration is statutorily required to prepare an annual report of energy savings achieved by good design practices for capital construction projects. To assist in gathering data for the preparation of this report, the Architect-Engineer shall prepare a computer-generated simulation of the building energy usage for a typical year's operation. Where such calculations are not applicable (i.e. nature of the project), this requirement may be waived by the Project Manager.

For projects designed under Kentucky High Performance Building Standards, the energy calculations required by LEED will satisfy these requirements. However, they must be submitted at Phase A.

The report should reflect two conditions, incorporating all energy-consuming building systems:

- A base calculation with parameters based on either:
 - Minimum code requirements or
 - Minimum industry-accepted design standards.
- A second calculation reflecting the actual project design and incorporating all features that enhance building systems energy efficiency. Examples may include (but are not limited to) additional insulation, high-performance windows, high-efficiency lighting, premium electrical motors, etc.

The calculations shall show total estimated annual energy consumption (MBH per year) for each case.

The report should identify the individual components that contributed to the annual energy savings. The calculations need not show the individual savings of each premium component, but shall reflect the total effect of all improvements incorporated in the design.

Acceptable software packages are Carrier HAP or Trane TRACE, or others as approved by the Project Manager.

Two sample "Energy Savings Reports" are included for reference:

- **Section 230000-3.1 Energy Savings Report Sample 1**
- **Section 230000-3.2 Energy Savings Report Sample 2**

The report must be reviewed and accepted by the Division of Engineering and Contract Administration before the Phase C submittal package is approved.