

## Energy Model Guidelines

Item “D” of the IHL Sustainability Policy states, “*All new construction and/or major repair and renovation of existing facilities must be designed to meet energy-efficient goals which exceed ASHRAE 90.1 by 30%, when determined cost effective.*” It is the responsibility of each institution to ensure that the design and construction of their facilities comply with this policy. It is recommended that the Energy Management or Sustainability Committees at each University be involved in the enforcement of the policy.

While designing a building, a team of professionals will go through a sequential design process before issuing a final set of construction documents for bid. This design process includes schematic design, design development and construction document phases. Meaningful results from an energy model are typically available during the design development phase with the most accurate models coming when the construction documents are 100% complete. As the energy model is the most critical tool available to demonstrate compliance and exceedance of the ASHRAE 90.1 energy standard, it is recommended that each University Energy/Sustainability Committee request and review energy models at the Design Development and the Construction Document phases of each qualifying project. *It should also be stressed that the most energy efficient and sustainable design is achieved when energy and sustainability goals are included at the very beginning of the design process when the key concepts for the project are being developed.*

It is the job of the professional design team to deliver a design that complies with the IHL Sustainability Policy. It is the responsibility of the appropriate officials at each University to enforce the policy in the manner which they deem most appropriate. The following guidelines can be utilized to ensure that the design team provides sufficient information to demonstrate compliance with the policy.

### Guidelines for the Design Team:

- 1) The professional team should provide the owner with an energy model and a letter recommending the acceptance of the proposed design.
- 2) The letter of recommendation shall state which version of the ASHRAE 90.1 standard was utilized. The letter should also state the energy and cost reductions (if applicable) between the baseline and proposed designs.
- 3) The professional should briefly describe the building and provide a summary of energy efficient features that allowed the building to exceed the ASHRAE 90.1 standard. R-Values, U-Values, fenestration characteristics, mechanical features, controls enhancement, electrical enhancement, and other key design considerations related to the envelope and building systems should be included.
- 4) If the proposed design does not meet the 30% requirement referenced in the IHL Sustainability Policy, the professional should state why the proposed design is the most “cost effective” design. This statement should be supported with examples of energy enhancing features that were considered but deemed “not cost effective” to integrate into the design.
- 5) If the design does meet the 30% requirement referenced in the IHL Sustainability Policy, the letter should state that the proposed design meets this aspect of the policy.