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INTERPRETATIONS OF ENERGY

MODEL RESULTS

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MODULE
L6

Resolve Loads Not Met & Hours Outside of Control Range

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INTERPRETATIONS OF ENERGY MODEL RESULTS

Building energy modeling (BEM) is a crucial tool for optimizing building performance by ensuring energy loads align with the building's operational parameters. Two key issues for energy modelers are "loads not met" and "hours outside of control range." Loads not met occur when a building's energy demands exceed its designed capacity, often due to factors like equipment sizing, system inefficiencies, or unforeseen occupancy patterns.

Learning Objectives

- Introduction and Course Outline
- **Resolve Loads Not Met & Hours Outside of Control Range**
- Analyzing and Comparing Modeling Results
- Economic Analysis
- Sensitivity Analysis
- Exceptional calculation methods
- Building Energy Modeling Project Deliverables
- Interpreting Model Results
- Sample Energy Modeling Report
- Summary and Resources
- BEMP Practice Test V.5.1



INTRODUCTION

- Crucial for designing, analyzing, and optimizing building performance.
- Ensuring energy loads align with expected operational parameters.
- Addressing "loads not met" and "hours outside of control range" is crucial.
- Loads not met: Energy demands exceed system capacities, resulting from equipment sizing, system inefficiencies, or unforeseen occupancy patterns.
- Addressing hours outside of control range: Advanced control systems, system redundancy, building envelope improvements, and educating occupants about energy use and comfort settings.
- A holistic approach to energy management is necessary for a comfortable, efficient, and sustainable built environment.

BUILDING ENERGY MODELING AND LOADS NOT MET

Understanding Loads Not Met

- Loads not met refers to situations where energy demands exceed the capacities of the systems designed to meet those demands.
- Unmet loads can lead to discomfort for occupants, potential damage to building materials, and increased energy consumption.
- Strategies to resolve loads not met include equipment sizing, system efficiency, thermal mass utilization, and demand response strategies.



HOURS OUTSIDE OF CONTROL RANGE



- Hours outside of control range refers to the duration for which environmental conditions exceed predefined comfort or operational thresholds.
- Prolonged hours outside of control range may lead to occupant discomfort, decreased productivity, and adverse effects on the building's systems and materials.
- Strategies to address hours outside of control range include advanced control systems, system redundancy, building envelope improvements, and educating building occupants about energy use and comfort settings.

CONCLUSION

- Understanding these issues is crucial for energy modelers to implement effective strategies to enhance building performance.
- The ultimate goal is to achieve a comfortable, efficient, and sustainable built environment that meets the needs of its occupants while minimizing energy consumption.



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