



eQUEST[®]

Whole-Building Energy Analysis

Training for Building and Energy Professionals

Mar. 17 – 18, 2008 -- Kansas City, KS

Presented by the Kansas Building Science Institute

Sponsored by the Kansas Corporation Commission

Event

This is a two-day workshop for new and experienced users of eQUEST[®]. Students are required to bring a laptop computer.

Background

Concerns about energy and environmental performance of buildings in Kansas have led to the realization that there may not be an adequate number of engineering professionals with specific training in energy performance analysis to serve the needs of loan, grant and regulatory programs that are likely to develop within the next several years.

In response to these concerns, the Kansas Corporation Commission (KCC) Energy Programs Division (Kansas Energy Office) is working with the Kansas Building Science Institute (KBSI) in cooperation with the Kansas office of the United States Department of Agriculture (USDA) and the Kansas City chapter of the Association of Energy Engineers (AEE) to develop and deliver a training program on the eQUEST simulation tool.

Prospective programs or initiatives that are likely to use the services of this trained group of engineering professionals include, but are not limited to the following:

- The Governor's Energy Directive mandate that energy performance analysis should be completed on buildings leased by the State of Kansas,
- Energy performance analysis of deferred maintenance projects for State Regent's Universities, and
- Energy performance analysis of USDA 9006 loan program projects throughout the state of Kansas.

The prospective audience for the eQUEST training program includes any engineer who may become involved in any of the types of projects listed above. Short term goals of the training program include a need to be responsive to the 2008 grant cycles of the USDA and other Federal programs to do energy analysis as a component of grant and

loan applications and a need to have a cadre of trained energy engineers available to be responsive to State leased buildings and other emerging programs during the coming year. Longer term goals include a need to be responsive to a broad range of both public and private sector energy performance-related programs that are likely to develop in coming years.

Whole-Building Analysis

Prescriptive building energy codes compel performance gains at the component level. Whole-building analysis sees a building as a 'system of systems' and seeks performance gains by optimizing the synergy between systems, a view promoted by building performance rating systems such as LEED[®].

eQUEST

eQUEST is freeware, provided courtesy of California's *Energy Design Resources*.

Attendees will receive a copy of eQUEST along with a training workbook on CD. Download eQUEST at <http://doe2.com>.

Day 1, eQUEST Schematic Design

This basic class will introduce eQUEST, a user-friendly, DOE-2 based building simulation tool that uses wizards to help building professionals estimate the energy use impacts of building designs in a fraction of the time. Emphasis will be on schematic design analysis in support of LEED.

Day 2, eQUEST Detailed Design

This intermediate hands-on computer training will provide instruction in using eQUEST to accomplish detailed design and operation of energy efficient buildings and building systems. Participants with prior experience are encouraged to bring their detailed modeling questions to the seminar for discussion. Instruction will emphasize detailed analysis of whole-building energy performance in support of LEED.

Instructor

Marlin S. Addison, Principal, M.S. Addison & Associates, Tempe, Arizona, and Clinical Assistant Professor, College of Design, Arizona State University. Mr. Addison is a nationally recognized expert in building energy analysis.

Workshop Agenda

Day 1: 8:00am – 4:30pm

Overview of *eQUEST*'s Capabilities
Schematic Design Wizard
Energy Efficiency Measures Wizard
Graphical/Parametric Reports

Lunch (provided)

Design Development Wizard
Using DWG files with *eQUEST*
Intro to Parameters & Expressions
Parametric Run Reporting
Intro to LEED Analysis using *eQUEST*
DOE-2.2. Documentation Overview

Day 2: 8:00am – 4:30pm

DOE-2 simulation methodology basics
eQUEST's Detailed Interface Overview
Detailed Interface Basics:
constructions, schedules, glass types, geometry, shading, DOE-2 HVAC assignments, parameters, expressions & parametric processing

Lunch (provided)

Selected Additional Topics (by user preference), e.g., daylighting, HVAC sizing, central plant equipment control, DCV, pipe & duct loss, heat recovery, equipment performance curves, utility tariffs, sub-meters, LCC, etc.

LEED Analysis issues using *eQUEST*
Detailed (DOE-2) Output Reports
Quality Control Procedures.

Registration Form - *eQuest* Whole-building Energy Analysis#

Name		
Company/Agency		
Address		
City	State	Zip
Work Phone	Work Fax	
Cell Phone (for last-minute or emergency contact only)		
e-mail address		

Register by returning this form to:
Kansas Building Science Institute
PO Box 1264
Manhattan, KS 66505-1264

PHONE: 785-537-2425
OR FAX TO: 785-537-2440

Registration fee is \$250 per person.
 Request use of KBSI laptop computer (\$50)

Please indicate method of payment:

Check enclosed payable to KBSI
 Send invoice
 Charge to: VISA MC Amex Disc.

Print Cardholder's Name as it appears on card

Card Number

Exp. Date

