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BUILDING ENERGY SIMULATION

USERNEWS

For Users of EnergyPlus, SPARK, DOE-2, BLAST, Genopt, Building Design Advisor, ENERGY-10 and their Derivatives

What's New ?

.....EnergyPlus

You may download EnergyPlus (version 1.0.0) by visiting our web site (http://SimulationResearch.lbl.gov) and clicking on "EnergyPlus 1.0" in the left-hand menu. Version 1.0.1 is scheduled for release in January 2002. It will have many new features, including window blinds, system auto-sizing, air-to-air heat pump and zone multipliers.

.....New! 1,000-Zone DOE-2

DOE-2.1E modifications that allow users to model up to 1,000 zones have been sent to the Energy Science and Technology Software Center. Please contact **Ed Kidd** or **Walt Kelly**.

NCI Information Systems, Inc.
ESTSC
P.O. Box 1020
Oak Ridge, TN 37831
estsc@adonis.osti.gov

The DOE-2.1E *BDL Summary* has been updated to reflect the new limits on zones and other components (see p. 2).

.....Download DOE-2.1E *Basics*

Dr. Sam C. M. Hui, head of the DOE-2 Resource Center in Hong Kong, has broken down the DOE-2.1E *Basics Manual* into pdf files and scanned them onto a CD. He offered it to us so that we may allow other DOE-2 users to download the files freely. Go to our web site at http://SimulationResearch.lbl.gov and click on "Documentation" under DOE-2 in the left menu, then click on the link to DOE-2.1E *Basics*. Alternatively, you may email us (klellington@lbl.gov) and request the CD via regular mail.

.....HVAC Continuing Education

The University of Washington at Seattle is presenting **Air Conditioning Design** (Jan 15). You may register online at **www.engr.washington.edu/epp/**

What's Inside ?

FEATURES.....

2 1,000-Zone version of DOE-2.1E
3 EnergyPlus User Group
3 BLDG-SIM Mailing List
9 Pacific Gas & Electric's Fall 2001 Educational Programs
9 *DoeRayMe*, a New Screening Tool Application
10 *Lights! Camera! HVAC?* Video resources from the California Energy Commission
12 DesiCalc 2.0

SOFTWARE.....

8 BLAST News
6 Building Design Advisor 3.0
5 DOE-2.1E
- 11 Training
- 13 Directory of DOE-2 Software and Services
- 15 Pre- and Post-Processors for DOE-2
- 16 Special Versions of DOE-2
- 19 International DOE-2 Resource Centers
- 21 International DOE-2 Consultants
- 22 U.S. DOE-2 Consultants

12 DesiCalc 2.0
11 ENERGY-10 1.3 (with WeatherMaker)
2 EnergyPlus 1.0
4 GenOpt 1.1
4 VisualSPARK 1.0
7 Software from Lawrence Berkeley Laboratory

RECENT REPORTS.....

10 From the Florida Solar Energy Center
- *Energy-Efficient Design for Florida Educational Facilities*
- *Measured Impact of Advanced Windows on Cooling*

DEPARTMENTS.....

11 Cool Web Sites
- *Lab Notes*: a newsletter from the University of California's College of Engineering
- *Underfloor Air Technology*

13 Meetings, Conferences, Symposia

Changes to DOE-2.1E

Recent changes to DOE-2.1E are described. Shown at the left is the version number of DOE-2.1E, which is incremented for each change. Following is a short description of the changes, the initials of the author and date of change. Note that each version of DOE-2.1E includes all changes made up to and including that version number. Therefore, Version -116 includes all prior changes. You can determine which version of the program you are using by checking any of the output reports, where version *nnn* is indicated as DOE-2.1E-*nnn*.

-115 : bdl [change the BDL macro capability]
Don't show the line containing ##list statement, when the ##list statement is turning on the listing that was previously off. [EE 2001.06.10]

-116 : bdl dkey lds sys sim [1000-zone version of DOE-2.1E] [EE 2001.09.30]

The limits of the following commands have been increased:

Command Name	old limit	new limit
BUILDING-SHADE	64	128
CONSTRUCTION	128	256
CURVE-FIT	100	200
DAY-SCHEDULE (Loads and Systems)	300	1025
DOOR	64	1024
EXTERIOR-WALL or –ROOF	2048	4096
FIXED-SHADE	33	100
GLASS-TYPE	32	48
HOURLY-REPORT (Loads and Systems)	16	32
INTERIOR-WALL	2048	3048
LAYERS	64	256
MATERIAL	128	1024
PARAMETER	50	100
PLANT-ASSIGNMENT	4	8
POLYGON	5000	8192
REPORT-BLOCK	64	128
SCHEDULE (Loads and Systems)	100	513
SET-DEFAULT (Loads and Systems)	100	300
SPACE	128	1024
SPACE-CONDITIONS	50	1024
SYSTEM	128	256
UNDERGROUND-WALL or –FLOOR	64	256
WEEK-SCHEDULE (Loads and Systems)	200	751
WINDOW	2048	8192
ZONE	128	1024
ZONE-AIR	50	1024
ZONE-CONTROL	50	1024
ZONE-FANS	50	1024

Note: new pages for the DOE-2.1E BDL Summary have been created. They are available as pdf files from our web site.

Go to SimulationResearch.lbl.gov
> DOE-2
> Documentation
> Update #4

EnergyPlus Version 1.0.0

To download a free copy of the program go to

http://www.eren.doe.gov/buildings/energy_tools/energyplus

Join the EnergyPlus User Group

The developers of EnergyPlus have formed a support group in order to foster discussion and maintain an archive of information for program Users. We invite questions about program usage and suggestions for improvement to the code. This group is not meant to replace the primary support at EnergyPlus-Support@GARD.com.

The main page: http://groups.yahoo.com/group/EnergyPlus_Support

Send messages to: EnergyPlus_Support@yahoogroups.com

Files on the web site include:
SetEPlus.exe -- the usual install file
Readme.pdf -- updated readme file
V1ReleaseSource.zip -- zip of the current source code -- will be updated soon!
Energy+.idd -- unbundled Data Dictionary
SetEPlusPatch01.exe -- the patch install. Includes updated EnergyPlus.exe, documentation, etc. but no new input files (input files did not change).

For more information on EnergyPlus go to

http://www.eren.doe.gov/buildings/energy_tools/energyplus

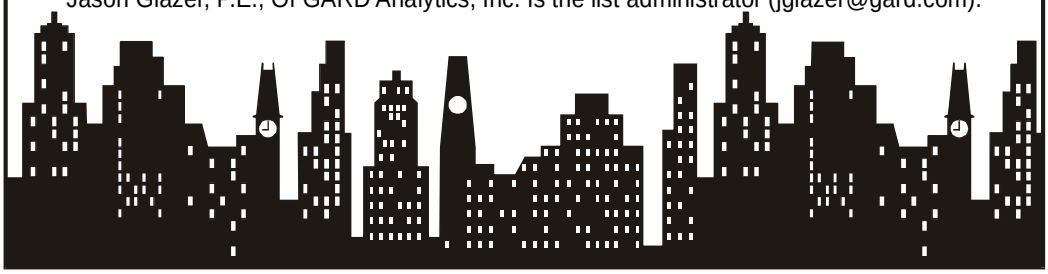
EnergyPlus is being developed by University of Illinois, CERL, and Lawrence Berkeley National Laboratory, with the assistance of the Florida Solar Energy Center, GARD Analytics, the University of Wisconsin, Oklahoma State University and others.

Join the BLDG-SIM Mailing List

BLDG-SIM is a mailing list for users of building energy simulation programs like EnergyPlus, DOE-2, Trace-600, HAP, BLAST, ESP, SERIRES, TRNSYS, TASE, ENERGY-10 and others. Because building simulation professionals are located worldwide, the BLDG-SIM list is an attempt to foster the development of a community of those users. Users of all levels of expertise are welcome and are encouraged to share their questions and insights about these programs.

The web page for BLDG-SIM is http://www.gard.com/bldg-sim.htm

Jason Glazer, P.E., Of GARD Analytics, Inc. Is the list administrator (jglazer@gard.com).



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GenOpt 1.1

Generic Optimization Program

New in GenOpt 1.1 are an additional algorithm for multi-dimensional optimization, algorithms for one-dimensional optimization, and an algorithm for parametric runs in a multi-dimensional space. The new version allows processing of multiple function values and has an improved graphical user interface.

GenOpt is a multi-parameter optimization program, available free of charge from LBNL. It automatically finds the values of user-selected design parameters that minimize an *objective function*, such as annual energy use, calculated by an external simulation program like EnergyPlus, SPARK, DOE-2, BLAST, TRACE, TRNSYS, etc. GenOpt can be used with any simulation program that has text-based input and output. It also offers an interface for adding custom optimization algorithms to its library.

Genopt 1.1 (with user manual) may be downloaded free of charge from

http://SimulationResearch.lbl.gov > GenOpt

VisualSPARK

Version 1.0

Available from Lawrence Berkeley National Laboratory,
VisualSPARK 1.0 allows you to build customized models of complex physical processes by connecting calculation objects. It is aimed at the simulation of innovative and/or complex building systems that are beyond the scope of programs like DOE-2 and EnergyPlus.

The main elements of VisualSPARK are a **user interface**, a **network specification language**, a **solver** for solving simultaneous algebraic and differential equations, and a **results processor**. With the network specification language you create equation-based calculation objects, and link the objects into networks that represent a building's envelope or HVAC components or systems. The solver solves this network for user-specified input parameters. With the results processor you graphically display the results of the calculation. VisualSPARK runs under the Windows 95/98/NT/2000, SunOS, Solaris, Linux and HPUNIX operating systems.

VisualSPARK costs $250. To purchase the program, go to
http://SimulationResearch.lbl.gov > VisualSPARK > Purchase

If you would like to get an idea of what the program does before purchasing it, you can review the SPARK User's Manual, which can be downloaded from http://SimulationResearch.lbl.gov > SPARK

VisualSPARK was developed by the LBNL Simulation Research Group and Ayres Sowell Associates, with support from the U.S. Department of Energy, Drury Crawley, program manager

http://SimulationResearch.lbl.gov > SPARK

DOE-2

PC Version of DOE-2.1E from ESTSC

DOE-2.1E (version 110) for Windows is an updated version of DOE-2. Cost is as follows:

$ 300 U.S. Government, non-profit Educational
$ 575 U.S., Mexico, Canada
$ 1075 Other Foreign

DOE-2 Documentation on a CD from ESTSC - Cost US$100

What is included on the CD?

- DOE-2 Reference Manual (Part 1)
- DOE-2 Reference Manual (Part 2)
- DOE-2 Supplement to the Reference Manual (2.1E)
- DOE-2 BDL Summary (2.1E)
- DOE-2 Engineers Manual (2.1A)

Order Software and ESTSC Documentation

Ed Kidd
NCI Information Systems, Inc.
Energy Science and Technology Software Center
P.O. Box 1020
Oak Ridge, TN 37831

Phone: 865/576-1037
Fax: 865/576-6436
Email: estsc@adonis.osti.gov

Free DOE-2 Documentation

- DOE-2 Basics (2.1E)
- Update Package #1:
  Affects DOE-2.1E Basics, the Supplement and BDL Summary
- Update Package #2: (Version 107, DOE-2.1E)
  Affects the BDL Summary and Supplement.
- Update Package #3:
  Corrections to Appendix A of the Supplement.
- Update Package #4: (1000-zone DOE-2.1E)
  Updates to the BDL Summary.

DOE-2 Basics Manual and Update Packages 1, 2, 3 and 4 are not on the ESTSC CD. They consist of scanned pdf files and may be downloaded from our web site. You may also request a CD (email to klellington@lbl.gov).

The files need to be printed and pages inserted into your existing DOE-2 manuals.

Note that Update Packages are **not** cumulative and each one contains different information. You have to download all four packages to update the DOE-2 documentation completely.

Purchase DOE-2 Documentation

DOE-2 Sample Run Book (2.1E) -- The Sample Run book is the only remaining DOE-2 manual not available electronically. It must be purchased separately from NTIS; information is at http://SimulationResearch.lbl.gov > DOE-2 > Documentation

DOE-2 Help Desk

Contact the Simulation Research Group with your questions (email preferred) email: klellington@lbl.gov, Phone: (510) 486-5711, Fax: (510) 486-4089

Building Design Advisor 2.0

Decision making through the integrated use of multiple simulation tools and databases

The **Building Design Advisor (BDA)** is a Windows® program that addresses the needs of building decision-makers from the initial, schematic phases of building design through the detailed specification of building components and systems. The BDA is built around an object-oriented representation of the building and its context, which is mapped onto the corresponding representations of multiple tools and databases. It then acts as a ***data manager*** and ***process controller***, automatically preparing input to simulation tools and integrating their output in ways that support multi-criterion decision-making. Version 3.0 of the BDA is now available for Beta testing and includes links to three main simulation tools for daylighting, electric lighting and energy analyses:

- **DCM**, a simplified daylighting simulation tool,
- **ECM**, a simplified electric lighting simulation tool, and
- the **DOE-2.1E** building energy simulation program.

ECM, the **new electric lighting simulation tool** in BDA 3.0 beta, is integrated through BDA with DOE-2. BDA's Schematic Graphic Editor allows placement of electric lighting luminaires and specification of reference points for daylight-based electric lighting controls. Moreover, BDA now has the capability of **running DOE-2 parametrically** to generate a plot that shows the relationship between effective aperture and energy requirements. BDA 3.0 beta provides the added functionality of working with either **English units or Metric units**.

Current research and development efforts are focused on the development of links to **Desktop Radiance**, a Windows 95/98/NT version of the **Radiance** lighting/daylighting simulation and rendering software.

The minimum and recommended system **requirements** to run the BDA software are as follows:

Minimum	**Recommended**
Pentium 75	Pentium 200 or better.
Windows 95, 98, NT 4.0.	Windows 95, 98, NT 4.0.
16 / 32MB RAM under Windows 95	24 / 64MB RAM under Windows NT 4.0.
30 MB of larger hard disk space.	60 MB of larger hard disk space.
640x480 or higher screen resolution.	1024x768 or higher screen resolution.

The BDA source code is available for licensing; if interested, please contact Dr. Papamichael at K_Papamichael@lbl.gov.
To learn more about the BDA software and to download a copy of the latest public version (BDA 2.0), please visit http://gaia.lbl.gov/BDA

For Beta Testing of BDA 3.0, please contact Vineeta Pal at VPal@lbl.gov.

Software Available from Lawrence Berkeley National Laboratory

Free Downloads	
BDA 2.0 (Building Design Advisor) *beta version of 3.0 is also available from vpal@lbl.gov*	gaia.lbl.gov/bda/index.html
COMIS (multi-zone air flow and contaminant transport model)	www-epb.lbl.gov/comis
***EnergyPlus* 1.0** (new-generation whole-building energy analysis program, based on BLAST and DOE-2)	SimulationResearch.lbl.gov > EnergyPlus
***GenOpt*® 1.1** (generic optimization program)	SimulationResearch.lbl.gov > GenOpt
RADIANCE (analysis and visualization of lighting in design) ***Desktop Radiance*** (integrates the Radiance Synthetic Imaging System with AutoCAD Release 14)	radsite.lbl.gov/radiance/ radsite.lbl.gov/deskrad/
RESEM (Retrofit Energy Savings Estimation Model) (calculates long-term energy savings directly from actual utility data)	eetd.lbl.gov/btp/resem.htm
SUPERLITE (calculates illuminance distribution for room geometries)	eetd.lbl.gov/btp/superlite20.html
THERM 2.1a (model two-dimensional heat-transfer effects in building components where thermal bridges are of concern)	windows.lbl.gov/software/therm/therm.html
WINDOW 5 Beta (thermal analysis of window products)	windows.lbl.gov/software/window/window.html
Request by Fax from 510.486.4089	
RESFEN 3.1 (choose energy-efficient, cost-effective windows for a given residential application)	windows.lbl.gov/software/resfen/resfen.html
Web Based	
Home Energy Saver (quickly compute home energy use)	hes.lbl.gov
Purchase	
VisualSPARK (Simulation Problem Analysis and Research Kernel) (build simulations of innovative building envelope and HVAC systems by connecting component models)	For Windows, SUN, Linux, go to SimulationResearch.lbl.gov > SPARK
ADELINE 2.0 (daylighting performance in complex spaces)	radsite.lbl.gov/adeline/

BLAST*news*

www.bso.uiuc.edu

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30 Mechanical Engineering Building
University of Illinois
1206 West Green Street
Urbana, IL 61801
Telephone: (217) 333-3977
Fax: (217) 244-6534
support@blast.bso.uiuc.edu

The **Building Loads Analysis and System Thermodynamics (BLAST** program predicts energy consumption, energy system performance and cost for new or existing (pre-retrofit) buildings.

BLAST contains three major sub-programs:

- **Space Load Prediction** computes hourly space loads in a building based on weather data and user inputs detailing the building construction and operation.
- **Air Distribution System Simulation** uses the computed space loads, weather data, and user inputs.
- **Central Plant Simulation** computes monthly and annual fuel and electrical power consumption.

Heat Balance Loads Calculator (HBLC)
The BLAST graphical interface (HBLC) is a Windows-based interactive program for producing BLAST input files. You can download a demo version of HBLC (for MS Windows) from the BLAST web site (User manual included).

HBLC/BLAST Training Courses
Experience with the HBLC and the BLAST family of programs has shown that new users can benefit from a session of structured training with the software. The Building Systems Laboratory offers such training courses on an as needed basis typically at our offices in Urbana, Illinois.

WINLCCID 98
LCCID (Life Cycle Cost in Design) was developed to perform Life Cycle Cost Analyses (LCCA) for the Department of Defense and their contractors.

To order BLAST-related products, contact the Building Systems Laboratory at the address above.

Program Name	Order Number	Price
PC BLAST Includes: BLAST, HBLC, BTEXT, WIFE, CHILLER, Report Writer, Report Writer File Generator, Comfort Report program, Weather File Reporting Program, Control Profile Macros for Lotus or Symphony, and the Design Week Program. The package is on a single CD-ROM and includes soft copies of the BLAST Manual, 65 technical articles and theses related to BLAST, nearly 400 processed weather files with a browsing engine, and complete source code for BLAST, HBLC, etc. Requires an IBM PC 486/Pentium II or compatible running MS Windows 95/98/NT.	3B486E3-0898	$1500
PC BLAST Package Upgrade from level 295+	4B486E3-0898	$450
WINLCCID 98: executable version for 386/486/Pentium	3LCC3-0898	$295
WINLCCID 98: update from WINLCCID 97	4LCC3-0898	$195

The last four digits of the catalog number indicate the month and year the item was released or published. This will enable you to see if you have the most recent version. All software will be shipped on 3.5" high density floppy disks unless noted otherwise.

PG&E Fall 2001 Programs

Pacific Gas and Electric Company

WE DELIVER ENERGY.

To register call 415.973.7268 or go to www.pge.com/pec

HVAC

November 28 (Wed)
9:00 am to 4:30 pm
HVAC Retrofits
Introductory program.

December 12 (Wed)
9:00 am to 4:30 pm
Cool Thermal Storage
Thermal storage design issues, control strategies and the impact of revised rate structures; manufacturers' exposition follows the seminar.

ARCHITECTURE

November 13 (Tue)
1:00 pm to 4:30 pm
Daylighting Large Retail and Warehouse Facilities
Daylighting in "big box" buildings.

WHOLE-BUILDING PERFORMANCE

November 15 (Thu)
9:00 am to 4:30 pm
Energy Audits
Basic program of energy auditing techniques, tools and software.

December 10 (Mon)
9:00 am to 4:30 pm
Correct Field Implementation of Energy Efficient Designs
Part 1: Design Details -- How to provide good design details within construction documents to reduce building problems and save money.

December 11 (Mon)
9:00 am to 4:30 pm
Correct Field Implementation of Energy Efficient Designs
Part 2: Design Review -- How to provide good design details within construction documents to reduce building problems and save money.

LIGHTING

December 13 (Thu)
9:00 am to 1:00 pm
Design and Commissioning of Lighting Controls
Making sure lighting controls function as intended after installation.

Disclaimer: The Building Energy Simulation User News was prepared as an account of work sponsored by the United States Government (USG). While this document is believed to contain correct information, neither the USG nor any agency thereof, nor the Regents of the University of California (RUC), nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process or service by its trade name, trademark, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the USG or any agency thereof, or the RUC. The views and opinions of authors expressed herein do not necessarily state or reflect those of the USG or any agency thereof or of the Regents of the University of California

You are invited to test **DoeRayMe**, a new DOE-2.1E screening tool application currently being developed by Jason Glazer, P. E., of GARD Analytics, Inc. **DoeRayMe** is a simple and flexible interface that uses a specially developed DOE-2 input file (template) that contains special codes describing the parameters available to be changed in the user interface. This allows new screening tools to be developed by any DOE-2 user. Please visit the **DoeRayMe** web site at http://www.gard.com/DoeRayMe.

Recent Reports

These reports are available) from the Florida Solar Energy Center at http://www.fsec.ucf.edu/Bldg/pubsonline.htm#pubs.

Energy-Efficient Design for Florida Educational Facilities

Project Team
Janet McIlvaine, Michele Mallette, Danny Parker, Michael Callahan, Philippe Lapujade, David Floyd, Lynn Schrum, Ted Stedman

Project Consultants
Brian Cumming, R. Douglas Stone Associates, Inc., Orlando, FL; Larry Maxwell, Spacecoast Architects, Melbourne, FL; Milt Salamon, Technical Editor, Cocoa Beach, FL

Abstract

This document provides a detailed simulation analysis of a variety of energy conservation measures (ECMs) with the intent of giving design teams a basis for decision making. Designers are advised to aim for the lowest consumption building economically possible and to target the major energy users, lighting and air conditioning, to achieve that goal. Reductions in energy cost ($) is provided for comparing relative performance of ECMs. Simple payback of ECMs appears in a chart in each section's Overview. Life cycle cost savings are in the Conclusions section. *(DOE-2)*

Measured Impact of Advanced Windows on Cooling

Michael T. Anello, Danny S. Parker, John R. Sherwin, Katie Richards

Abstract

A significant portion of Florida's residential building stock consists of single-family homes with clear, single-pane, aluminum frame windows. Such windows can lead to considerable heat gain during the hot Florida summer. A side-by-side field test in two identical homes was conducted to evaluate the impact of high performance windows on space cooling demand under realistic conditions. *(EnergyGauge and DOE-2)*

Florida Solar Energy Center
1679 Clearlake Rd.
Cocoa, FL 32922-5703

www.fsec.ucf.edu

Lights ...// Camera! ...// HVAC ??

The Consumer Energy Center of the California Energy Commission has started an ambitious project; they have created training videos for building energy professionals. Four videos have been made to date with more to be added in the near future. Those available for immediate viewing are HVAC (ductwork), Insulation, Cool Roofs and Radiant Barriers. The videos take the form of informal discussions between two professionals, demystifying and discussing the subject matter. Even though their emphasis is on residential and small buildings, the web site is worth exploring, go to:.

http://www.consumerenergycenter.org/homeandwork/index.html

ENERGY-10, Version 1.3 with WeatherMaker

Version 1.3 of ENERGY-10 is now available. It includes the much-anticipated ***WeatherMaker*** function. *WeatherMaker* allows users to create their own weather files based on information available from nearly 4,000 weather stations throughout the U.S. Revisions to the program itself include some minor fixes, an improved and expanded Help section, and greater clarity in titling and identification of various sections. Contact the Sustainable Buildings Industries Council for more information, or to order your upgrade disc (the cost is $15, which covers production and shipping).

ENERGY-10, written in C^{++}, is a design tool for smaller residential or commercial buildings that are less than 10,000 ft^2 floor area, or buildings that can be treated as one- or two-zone increments. It performs whole-building energy analysis for 8760 hours/year, including dynamic thermal and daylighting calculations. ENERGY-10 was specifically designed to facilitate the evaluation of energy-efficient building features in the very early stages of the design process.

Input: Only four inputs required to generate two initial generic building descriptions. Virtually everything is defaulted but modifiable. As the design evolves, the user adjusts descriptions using fill-in menus (utility-rate schedules, construction details, materials).

Output: Summary table and 20 graphical outputs available, generally comparing current design with base case. Detailed tabular results also available.

Platform: PC-compatible, Windows 3.1/95/98, Pentium processor with 16 MB of RAM is recommended.

Douglas K. Schroeder
1331 H Street N.W., #1000
Washington, DC 20004

Tel: 202.628.7400 ext 210
Fax: 202.383.5043
www.sbicouncil.org

Sustainable Buildings Industry Council (SBIC)

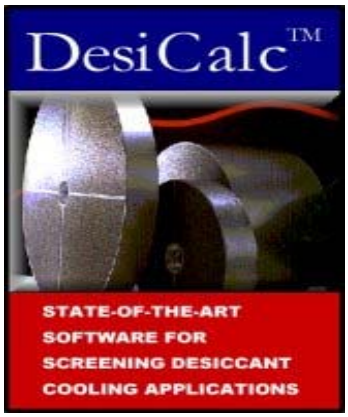
DOE-2 Training	Private or group DOE-2 courses for beginning and advanced users: Phone Marlin Addison at (602) 968-2040, or send email to marlin.addison@doe2.com

World Wide Web Sites for Building Energy Efficiency

www.cbe.berkeley.edu/underfloorair/Default.htm	**Underfloor air distribution:** research results, FAQs, links and more from the Center for the Built Environment at the University of California (Berkeley)
www.coe.berkeley.edu/labnotes/index.html	**Lab Notes:** newsletter reporting on the research from the College of Engineering at the University of California (Berkeley)

DesiCalc 2.0

Desiccant Screening Software



Overview

DesiCalc allows you to do quick accurate screening evaluations of desiccant dehumidification applications. Using DOE-2.1E for accurate flexible simulations and a library of common applications, energy professionals have been using DesiCalc since 1998. Working from customer suggestions, the program has been expanded to DesiCalc 2, with the following new features.

New Applications

- Full-Service Restaurant
- Industrial Building

New Building Description Features

- User can modify building geometry
- Control of multiple zones/areas
- User control of building construction from a pre-packaged library
- Drawings of building floor plans

New Internal Loads and Controls Features

- User inputs for gas equipment and refrigeration loads
- User control of latent and exhaust fraction for gas and electric loads
- Separate schedules for gas and electric equipment
- User control of school schedule for summer period
- User can set humidity control by zone for multiple zone applications

New HVAC Features

- Variable-air-volume option available
- User control of cold deck temperature
- Outside air options (nursing homes)
- Improved handling of corridor outside air to provide better humidity report
- User control of desiccant pre-cooling coil
- User control of desiccant regeneration energy source - gas or electric
- User control - heat/reheat efficiency

New Output Features

- Humidity plots for multiple zones
- Report hours humidity exceeds comfort set point by zone
- Go-to-next-back feature
- File name, time run, time print stamp on output reports
- New short report for multiple zones
- Improved reporting of building and equipment details
- Reporting of supply and outside air
- Gas and electric costs reported by end-use
- Improved help module with new graphics Manual on CD

Technical Support

Technical support is available by telephone at:
Toll Free for North America 877-DESICALC (877-337-4225)
Outside North America 847-698-3322

Purchase DesiCalc 2.0 for US$295 plus shipping and handling

Upgrade to DesiCalc 2.0 for US$40 plus shipping and handling
(Your old DesiCalc software disk must be sent to receive the upgrade price)

www.desicalc.com

Meetings, Conferences, Symposia

2001

November 5-7 2001	Second International Conference on Energy Research & Development	To be held in Safat, Kuwait http://kuc01.kuniv.edu.kw/~icerd
December 2-7 2001	Performance of the Exterior Envelopes of Whole Buildings VIII: Integration of the Building Envelope	To be held in Clearwater, FL http://www.ornl.gov/ORNL/BTC/tectrans.htm

2002

January 12-16 2002	ASHRAE Winter Meeting	To be held in Atlantic City, NJ Contact: jyoung@ashrae.org http://www.ashrae.org
April 14-18 2002	LIGHT + BUILDING International Trade Fair	To be held in Frankfurt, Germany Contact Ina Wiesberger at Tel: +49.69.7575.6144 or email ina.wiesberger@messefrankfurt.com
May 20-22 2002	13th Symposium on Improving Building Systems in Hot and Humid Climates	To be held in Houston, TX Contact: ltolles@esl.tamu.edu http://www-esl.tamu.edu/hh/main.htm
June 2-5 2002	Energy 2002 An Energy Efficiency Workshop and Exposition	To be held in Palm Springs, CA Contact: joanne@fsec.ucf.edu

Meetings, Conferences, Symposia (continued)

2002 Continued

June 22-26 2002 — **ASHRAE Annual Meeting**
To be held in Honolulu, HI
Contact: jyoung@ashrae.org
http://www.ashrae.org

August 18-23 2002 — **Teaming for Efficiency**
To be held in Pacific Grove, CA
http://www.aceee.org

December 4-6 2002 — **Advances in Building Technology**
To be held in Hong Kong - Contact: clyystui@polyu.edu.hk
http://www.polyu.edu.hk/~fclu/ABT21002
Tel: (852) 2766-5033
Fax: (852) 2362-2574

December 16-18 2002 — **6th International Conference on System Simulation in Buildings**
To be held in Liege, Belgium
Contact: michele.deprez@ulg.ac.be
http://www.ulg.ac.be/labothap

2003

January 25-29 2003 — **ASHRAE Winter Meeting**
To be held in Chicago, IL
Contact: jyoung@ashrae.org
http://www.ashrae.org

June 28-July 2 2003 — **ASHRAE Annual Meeting**
To be held in Kansas City, MO
Contact: jyoung@ashrae.org
http://www.ashrae.org

DOE-2 Directory of Program Related Software and Services[1]

ESTSC Versions of DOE-2

Program Name	Description		Cost
DOE-2.1E (Ed Kidd or Walt Kelly) estsc@adonis.osti.gov **ESTSC** P.O. Box 1020 Oak Ridge, TN 37831-1020 Ph: 865-576-2606 / Fx: 576-2865 www.doe.gov/html/osti	Source code, executable code and complete current documentation for: DOE-2.1E/Version 110 for Windows and SUN UNIX DOE-2.1E 1000-zone version **Operating System:** Windows, SUN UNIX	Support From ESTSC, limited operational support (telephone assistance concerning installation, media or platform questions).	**Windows SUN-UNIX VAX** Govt/Educ $ 300 $455 $500 US, Mexico, Canada $575 $1365 $1835 Other Foreign $1075 $2120 $2716

Commercial Versions of DOE-2

Program Name	Description		Cost
ADM-DOE-2 (Richard Burkhart) ADM Associates 3239 Ramos Circle Sacramento, CA 95827-2501 Ph: 916-363-8383, Fx: 363-1788 www.adm-energy.com	Use on 386/486 PCs with a math co-processor and 4MB of RAM. The package contains everything needed to run the program: program files, utilities, sample input files, and weather files. More than 300 weather files available. **Operating System**: DOS, Windows 95	Input Output Support	$395 + $15/SH including one set weather data (your choice) and documentation
Compare-IT (Matt Brost) RLW Analytics, Inc. info@rlw.com 1055 Broadway, Suite G Sonoma, CA 95476 Ph: 707-939-8823, Fx: 939-9218 www.rlw.com	Compare-IT allows DOE-2 professionals to add value to their projects by giving clients "what-if" scenarios using DOE-2. The interface is designed for novice energy analysts and the GUI can be customized for each client's particular interests. Based DOE-2.1E. **Operating System:** DOS, Windows (98, 95, NT)	Input: Customizable windows GUI dynamically built based on DOE-2 macros. Output Support	$500 consultant $2000 client Documentation available
DOE-Plus (Steve Byrne) Item Systems byrne @ item.com 321 High School Road NE Box 344 Bainbridge Island, WA 98110 Ph: 206-855-9540 / Fx: 855-9541 http://www.item.com/doeplus.htm	Complete support for all DOE-2 commands. Utility programs included: Prep, Demand Analyzer, weather processor. Over 500 worldwide weather files. Imports BDL files created with a text editor or other program. Based DOE-2.1E. **Operating System**: DOS, Windows (3.1, 95, NT)	Input Interactive, graphical, fill-in-the-blanks Output Customizable tables and graphics Support Unlimited, except modeling advice. On-line help.	$895 with DOE-2 and doc $495 without DOE-2 Source code not available.

[1] We list third-party DOE-2-related products and services for the convenience of program users, with the understanding that the Simulation Research Group does not have the resources to check the DOE-2 program adaptations and utilities for accuracy or reliability.

Commercial Versions of DOE-2 (continued)

Program Name	Description		Cost
EnergyPro 3.0 (D. Vonderkulen) demian@energysoft.com Gabel Dodd/EnergySoft LLC 100 Galli Drive #1 Novato, CA 94949-5657 Ph: 415-883-5900, Fx: 883-5970 www.energysoft.com	Performs nonresidential load calculations for HVAC equipment sizing. Electronically exports forms to AutoCad for inclusion on blueprints. On-line help. 344 weather files for the U.S. and Canada. **Operating System:** DOS, Windows (95, NT). ***For California Users***: Performs Title 24 compliance calculations, includes state-certified HVAC and DHW Equipment directories, Title 24 tailored lighting calculations. Based on ESTSC DOE-2.1E	Input: Graphical Output: Graphs, forms Support Unlimited support	DOE-2 Module: Non-residential $ 700[1,2] Residential $ 250[1,2] Program Interface $ 195[3] [1] price reflects cash discount [2] includes documentation [3] required
EZDOE (Bill Smith) bsmith @ elitesoft.com Elite Software P.O. Box 1194 Bryan, TX 77806 Ph: 409-846-2340 / Fx: 846-4367 http://www.elitesoft.com/web/hvacr/elite_ezdoe_info.html	Provides full screen, fill-in-the-blank data entry, dynamic error checking, context-sensitive help, mouse support, graphic reports, a 750-page user manual, and extensive weather data. Full implementation of DOE-2 on DOS-based 386 and higher computers. On-line help. Some weather files. Based on DOE-2.1E. **Operating System**: DOS	Input Fill-in-the-blanks Output Standard DOE reports plus some custom graphic reports Support Unlimited phone support	$1295 w/documentation Source code not available.
FTI/DOE2 (Scott Henderson) info @ finite-tech.com Finite Technologies Inc. 3763 Image Drive Anchorage, Alaska 99504 Ph: 907-333-8937, Fx: 333-4482 http://www.finite-tech.com/FTIDOE2001.htm	Version 3.0 Release -- FTI/DOE is 100% compatible with LBNL version. Source code versions will compile with most F77-compliant compilers. On-line help: 344 weather files for the U.S. and Canada. Based on ESTSC DOE-2.1E. No demo, 30-day trial period **Operating System**: DOS, Windows (3.x, 95, NT) AIX, ULTRIX, VMS, Linux, NeXTStep,	Input Version 2.x: text based Version 3.x: graphical Output All standard DOE-2 reports Run time and status graphics Support 90-days free; then cost is $ 35 each email per incident $ 55 per hour per incident $125 per hour for engineering advice.	$ 995.99 US w/documentation $1066 Int'l w/documentation $4999.99 Source code
PRC-DOE-2 (Paul Reeves) Paul.Reeves@DOE2.com Partnership for Resource Conservation 140 South 34th Street Boulder, CO 80303 Ph: 303-499-8611, Fx: 554-1370	Text-based version of DOE-2 includes documentation. Extensive information on new features, including information on new system types, new commands, new options, etc., added to later versions of 2.1E. **Operating System**: DOS, Windows (95, NT)	Input Standard text-based Output Support Unlimited support.	$ 495 w/documentation Source code not available.

Commercial Versions of DOE-2 (continued)

Program Name	Description		Cost
VisualDOE 3.0 (Eric Kolderup) support@eley.com Charles Eley Associates 142 Minna Street San Francisco, CA 94105 Ph: 415-957-1977 Fx: 415-957-1381 http://www.eley.com/gdt/visualdoe/index.htm	Fast construction of building geometry using pre-defined blocks and/or drawing interface. Import zone shapes from CADD file (dxf format). Point-and-click to define zone properties and HVAC systems. Rotate-able 3-D image of model. Custom hourly outputs, customized graphs. On-line help. 400+ US weather files, 12+ for Canada, plus selected locations around the world. **Operating System**: DOS, Windows (3.1, 95, NT)	Input Graphical Output Graphical Support 90 days free phone and email support.; thereafter $195/hear	Contact Eley Associates for cost of Version 3.0 (with documentation) Source code not available.

Pre- and Post Processors for DOE-2

Program Name	Description	Cost
DrawBDL Joe Huang & Associates 6720 Potrero Avenue El Cerrito, CA 94530 Ph/Fx: 510-236-9238	**DrawBDL,** Version 2.1, is a **graphic debugging and drawing tool for DOE-2 building geometry**. DrawBDL reads your BDL input and makes a rotate-able 3-D drawing of your building with walls, windows, and building shades shown in different colors for easy identification. **Operating System**: DOS, Windows (3.1, 95, 98, NT) [Works with 2.1E]	$125.00 plus shipping
PRC-TOOLS (Paul Reeves) **P R C** 140 South 34th Street Boulder, CO 80303 Ph: 303-499-8611 / Fx: 554-1370	*PRC-Tools* aid in **extracting, analyzing, and formatting DOE-2 output**. *PRC-Grab* automates the process of extracting any number of answers from DOE-2 standard output files. *PRC-Hour* and *PRC-Peak* format the hourly output and create Peak-Day and Average-Day load shapes for any number of periods and for any combination of hourly values. **Operating System**: Windows (95, 98, NT) [Works with 2.1E]	$99.00
Visualize-IT (Matt Brost) **RLW Analytics, Inc.** mattb@rlw.com 1055 Broadway, Suite G Sonoma, CA 95476 Ph: 800-472-6716 Fx: 707-939-8823 www.rlw.com/visualize_it.html	Visualize-IT 2.0 is a Windows application designed to help you explore and summarize short-interval time series data, e.g., measurements taken once every 15 minutes over a period of weeks, months or years. Visualize-IT has been developed specifically for electric and gas load data measuring class profiles, market-segments, individual customer sites or specific end uses. Customized DOE2.1e hourly output importer. Visualize-IT is highly useful and informative for looking at DOE2 output and/or comparing to interval metered data. It is equally useful for other time series measurements such as weather, industrial process control, and water quality. **Operating System:** Windows 95, 98 and NT	$500.00 per set Volume Discounts Available

"Work like you don't need money, Love like you've never been hurt, and Dance like no one's watching."

Special Versions of DOE-2

Program Name	Description	Cost
CBIP cbip.nrcan.gc.ca/cbip.htm Office of Energy Efficiency Natural Resources Canada 580 Booth St., 18th Floor Ottawa ON K1A 0E4, CANADA	Natural Resources Canada's **Commercial Building Incentive Program (CBIP)** offers a financial incentive for the incorporation of energy efficiency features in new commercial and institutional building designs. The objective of this new incentive is to encourage energy-efficient design practices and to bring about lasting changes in the Canadian building design and construction industry. The program will be offered until March 31, 2004.	Web Based (free)
Cool Tools (Peter Turnbull) Pacific Gas & Electric Company pwt1@pge.com www.hvacexchange.com/cooltools/	The CoolTools™ project objective is to develop, disseminate and promote an integrated set of tools for design and operation of chilled water plants. CoolTools products are Internet based, public domain resources available to building owners, design professionals, and operators involved in both new construction and retrofits.	Web Based (free)
DesiCalc GRI-98/0127 www.desicalc.com	**DesiCalc screens desiccant cooling applications**. It estimates annual or monthly energy loads, using hour-by-hour simulations, and costs for 11 typical commercial buildings in 236 geographical locations in the US. Includes the latest TMY2 meteorological database [Based on DOE-2.1E] **Operating System:** Windows 3.1, 95, 98, NT	$295 w/doc +8.75% tax in IL +4.5% tax in VA S/H add $20
Energy Gauge USA (Danny Parker) Florida Solar Energy Center 1679 Clearlake Road Cocoa, FL 32922 energygauge.com	***Energy Gauge USA*** allows the simple **calculation and rating of residential building energy use** in the US. The simulation calculates a six-zone model of the residence (conditioned zone, attic, crawlspace, basement, garage and sunspace) with the various buffered spaces linked to the interior as appropriate. TMY weather data for the program are available for 239 US locations. [Based on DOE-2.1E] **Operating System:** Windows 95, 98, NT	Contact Danny Parker at FSEC for availability.
Home Energy Saver (Residential DOE-2) hes.lbl.gov	**Calculation of residential energy consumption using DOE-2.1E**. The program performs a full annual simulation for a typical weather year (involving 8760 hourly calculations) from 239 locations around the United States in about 10-20 seconds.	Web Based (free)
PERFORM 2001 California Energy Commission 1516-9th St., MS-13 Sacramento, CA 95814 Ph: 916-654-5385	Created for the State of **California** Energy Commission's, **Title 24 energy code**. Perform 2001 is an interface shell with DOE-2 as the engine. PERFORM 2001 calculates building energy consumption for space heating, space cooling and domestic hot water heating, and compares the energy consumption of the building design against the requirements of the standards. DOS input. Output is only California Title 24 compliant. [Based on DOE-2.1E] Technical support $100/year from Gabel-Dodd Energy Soft LLC, Call 415-883-5900 for details.	$250 including PERFORM 2001 program and manual on CD. (VISA/MC) Order #PS-400-04-017 www.energy.ca.gov/reports/reports_400.html
RESFEN-3.1 Building Technologies, MS 90-3111 Lawrence Berkeley Laboratory Berkeley, CA 94720	**RESFEN** calculates the **energy and cost implications of a building's windows compared to insulated walls**. The relative energy and cost impacts of two different windows can also be compared against each other. RESFEN calculates the heating and cooling energy use and associated costs, also the peak heating and cooling demand for specific window products. [Based on DOE-2.1E] **Operating System:** Windows 95, 98, NT	Free! Download from windows.lbl.gov/software/resfen

INTERNATIONAL DOE-2 RESOURCE CENTERS

The people listed here have agreed to be primary contacts for DOE-2 program users in their respective countries. Each resource center has the latest program documentation, all back issues of the User News, and recent LBNL reports pertaining to DOE-2. Users may make arrangements to photocopy the new material for a nominal cost. We hope to establish centers in other countries; please contact us if you want to establish a center in your area.

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