THE DOE-2 USER NEWS

DOE-2: A COMPUTER PROGRAM FOR
BUILDING ENERGY SIMULATION

Table of Contents

☞ ☞ HANDS ON ☜ ☜

☞ Correction to the BDL Summary

Lynx-eyed Steve Byrne (Building Blocks Software of Berkeley) pointed out an error in the *BDL Summary (2.1D)*. On page 5, under WALL–PARAMETERS, the default value for FAN–KW was incorrectly shown as 0.0; the correct default value is 0.00003. The corrected page has been re-run and is included in this issue.

☞ Conferences and Workshops

Jul 30-Aug 1 — *Building on Experience:*
5th National Demand-Side
Management Conference

in Boston, MA. Contact: B. Johnson or R. Mitchell, 5th National Conference Headquarters, 286 Congress Street, Boston, MA 02210.

Aug 20-22 — *Building Simulation '91*

in Nice, France. Second World Congress on Technology Improving the Energy Use, Comfort, and Economics of Buildings Worldwide. Sponsor: IBPSA, the International Building Performance Simulation Association. Co-Sponsors: AFME, BAG, BPA, BEPAC, CEC-DGXII, DOE, EPRI, GRI, JRC, NOVEM, USA-CERL, PWC. Contact: Philippe Geril, IBPSA-BS'91, Coupure Links 653, B-9000 Ghent, Belgium. FAX: 32.91.24.40.93.

Aug 25-28 — *International Symposium on*
Energy and Environment '91

in Espoo, Finland. Contact: Prof. I. Kurki-Suonio, ISEE International Symposium on Energy and Environment, Helsinki University of Technology, Centre of Energy Technology, Otakaari 4, 02150 Espoo, Finland.

COMPLY 24

DOE-2 Energy Code Compliance Version for California's Non-residential Standards

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Introduction

A special, easy-to-use version of DOE-2.1D, tailored to the requirements of California's Title 24 Non-residential Building Energy Efficiency Standards, will soon be released by Gabel Dodd Associates, an energy consulting and software design firm. The DOE-2.1D calculation is a new module to Gabel Dodd's existing program, COMPLY 24, which is used by hundreds of firms throughout the state to calculate and document energy compliance of residential and commercial buildings. COMPLY 24 has been on the market (updated and expanded) since 1984.

The features of the new DOE-2.1D version are as follows:

- a simple-to-operate yet powerful shell (program interface) that creates a full building input description without the user having to know either DOE-2's Building Description Language (BDL) or a word processor;

- the automatic creation and/or insertion of appropriate fixed or restricted input assumptions for Title 24 compliance calculations;

- a report generator that produces all forms and worksheets needed for building permit applications in California; and,

- A BDL file generator for those users who know DOE-2 and want to use the interface (pre-processor) for other applications.

Input Editor and Library Features

The COMPLY 24 interface includes a flexible, menu-driven building editor and user-defined libraries. Once input, data is assembled from drawings and specifications and a building description to run DOE-2 can be entered in a matter of minutes.

The building editor allows the zone-by-zone entry of any building. Information is organized within the BUILDING EDIT MENU according to general inputs (e.g., rotation, location, title information), domestic hot water (DHW) zones, spaces (e.g., building envelope, lighting, occupant density) and HVAC zones. A zone can serve one or more spaces.

Within the building editor, selections are made from various libraries in which the user may create, modify and store the following specifications:

ASSEMBLIES   walls, roofs, floors, doors, glazing, exterior shades, overhangs and side-fins

ZONAL   fan coils and hydronic heat pumps

CENTRAL   built-up systems and packaged systems

PLANT   boilers, chillers, cooling towers

DHW   domestic (service) hot water systems

LIGHT   lighting fixture/lamp combinations

SCHEDULE   thermostat and fractional hourly schedules

LOCATION   design heating and cooling location data

MATERIAL   thickness, density, R-value, specific heat, emittance

This new COMPLY 24 release (Version 3.2) is perhaps the first DOE-2 pre-processor that allows a user to run DOE-2 effectively and interactively without any knowledge of the DOE-2 command structures.

Example
The BUILDING EDIT MENU for a sample building is shown below, with the results of the DOE-2.1D calculation displayed at the bottom:

```
B U I L D I N G   E D I T   M E N U           Building Floor Area:   8800

BUILDING                    SPACES 1-17              HVAC ZONES
  Title: NONRESIDENTIAL -     RETAIL 1ST FLOOR: SOUTH  RETAIL SOUTH
  Front Orient:     North     RETAIL 1ST FLOOR: NORTH  RETAIL NORTH
  Rotation:           15      RESTAURANT: 1ST FLOOR    RESTAURANT
  # Dwelling Units   0.0      OFFICE 2ND FLOOR S/E     OFFICE SOUTH
                              OFFICE 2ND FLOOR S/U     OFFICE NORTH
LOCATION (Climate Zone 3)     OFFICE 2ND FLOOR N/E     Undefined
  Berkeley                    OFFICE 2ND FLOOR N/U     Undefined
  Altitude           345      Undefined                Undefined
  Latitude          37.9      Undefined                Undefined
  Winter Dry Bulb     37      Undefined                Undefined
  Summer Dry Bulb     83      Undefined                Undefined
  Summer Wet Bulb     63      Undefined                Undefined
                              Undefined                Undefined
                              Undefined                Undefined
DHW ZONES                     Undefined                Undefined
  Gas                         Undefined                Undefined
  Electric                    Undefined                Undefined

DOE-2.1D ANNUAL SOURCE ENERGY USE ESTIMATE: (KBtu/sqft)

Heating:   4.1  Lighting:  57.0  Fan Power:  33.4   BUILDING TOTAL:  139.1
Cooling:  24.6  Receptacle: 16.7  Hot Water:   1.0          BUDGET:  139.5
```

Figure 1:

3

With either arrow keys or a mouse, the user can move the cursor to LOCATION, press <Enter>, and see a listing of the locations contained in the library:

```
B U I L D I N G   E D I T   M E|▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
                                |Select Location    Zone  Alt   Lat WDB SDB
BUILDING                    SPACE|▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔
  Title: NONRESIDENTIAL -    RET|Barrett Dam         10   1623  32.7  26  97
  Front Orient:     North    RET|Barstow             14   2162  34.9  23 104
  Rotation:           15     RES|Beale AFB           11    113  39.1  28 102
  # Dwelling Units    0.0     OFF|Beaumont           10   2605  33.9  27  99
                              OFF|Bell                8    143  33.9  38  91
LOCATION (Climate Zone 3)     OFF|Bellflower          8     73  33.8  37  91
  Berkeley                    OFF|Bell Gardens        8    160  33.9  37  91
  Altitude            345    Und|Belmont             3     33  37.5  34  84
  Latitude            37.9   Und|Benicia             3     55  38.1  33  93
  Winter Dry Bulb      37    Und|Ben Lomond          3    450  37.1  38  85
  Summer Dry Bulb      83    Und|Berkeley            3    345  37.9  37  83
  Summer Wet Bulb      63    Und|Berryessa Lake      2    480  38.6  31  98
                              Und|Beverly Hills       9    268  34.1  41  88
                              Und|Big Bar RS         16   1260  40.8  25  98
DHW ZONES                     Und|Big Bear Lake      16   6745  34.2   3  83
  Gas                         Und|Bishop AP          16   4108  37.4  12 100
  Electric                    Und|Blackwells Corner  13    644  35.6  28  94
                                 |Bloomington        10    980  34.0  35 102
DOE-2.1D ANNUAL SOURCE ENERGY US|Blue Canyon AP      16   5280  39.3  20  85
                                 |Blythe AP          15    395  33.6  33 112
Heating:   4.1  Lighting:   67.0|Blythe CO           15    268  33.6  29 112
Cooling:  24.6  Receptacle: 16.7|▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
```

Figure 2:

The same input capability is applied throughout the building editor. For example, in the WALL menu, the glazing type is selected from a pop-up window showing the glazing library:

```
                                |▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
                                |Glass Assembly        U-Val SC-u SC-s
Name:           West             |▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔▔
                                 |Undefined              1.10  1.00 1.00
Gross Area:         200.0  sqft  |Single/No Int Shades   1.10  1.00 1.00
Wall Assem:      R-11 Frame Wall |Single/Nonres Int Shade 1.10 1.00 0.96
Orientation:     West            |Single/NonWhite Drapes 1.10  1.00 0.91
                                 |Single/White Drapes    1.10  1.00 0.62
Glass 1 Area:       120.0  sqft  |Single/Medium Blinds   1.10  1.00 0.73
Glass Assem:   Double/No Int Shades|Single/Light Blinds  1.10  1.00 0.34
Glass Framing: Metal w/o Mullions |Single/Roller Shades  1.10  1.00 0.39
                                 |Double/No Int Shades    0.65  0.88 0.88
Ext Shade Assem: Undefined       |Double/Nonres Int Shade 0.65 0.88 0.85
                                 |Double/Nonwhite Drapes  0.65  0.88 0.75
Glass Width:         20.0  ft    |Double/White Drapes     0.65  0.88 0.55
Glass Height:         6.0  ft    |Double/Medium Blinds    0.65  0.88 0.64
                                 |Double/Light Blinds     0.65  0.88 0.33
Overhang Assem:  4' Overhang     |Double/Roller Shades    0.65  0.88 0.37
Side-Fin Assem:  Undefined       |Single Solar Bronze     1.10  0.71 0.71
                                 |Double Solar Bronze     0.65  0.69 0.69
                                 |Heat Mirror/Nonwhite Dr 0.23  0.70 0.68
DOE-2.1D ANNUAL SOURCE ENERGY USE EST|Glass U=0.60, NW Drapes 0.60 0.88 0.75
                                 |Glass U=0.50, NW Drapes 0.50  0.88 0.75
Heating:   1.7  Lighting:  100.3  Fan|Glass U=0.40, NW Drapes 0.40 0.88 0.75
Cooling:  63.9  Receptacle: 16.7  Hot|▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
```

Figure 3:

Energy Code Assumptions

There are many fixed and restricted inputs that must be used in calculating building energy performance for compliance with the California energy standards. COMPLY 24 automatically inserts the correct fixed and restricted inputs when it internally creates a BDL file to run DOE-2. For example, hourly schedules by occupancy type are fixed assumptions, as are such inputs as occupant density and equipment (receptacle) internal gain.

The program will soon be approved by the California Energy Commission for use with the current *second generation* 1988 Non-residential Building Energy Efficiency Standards.

Report Generator

The program calculates annual building energy performance for code compliance, and generates a full compliance report suitable for submittal with a building permit application. This includes all the required California forms and worksheets. To print DOE-2 reports, the user must edit the BDL file which can be generated by the program as described below.

Optional Generation of BDL

For users who want to run DOE-2 for other purposes (i.e., not for California compliance), there is an optional capability available to generate a BDL file and send it to disk. If the BDL option is selected, fixed assumptions can be modified in the BDL with a word processor as one might ordinarily do in preparing a DOE-2 file the old fashioned way — by hand!

In this respect, COMPLY 24 can be used successfully as an extremely powerful generic pre-processor by individuals who have familiarity with DOE-2.

1992 California Standards and Utility Incentive Programs

New non-residential building energy performance standards for California will take effect in 1992. For those standards, a so-called *custom energy budget* based on a standardized version of each proposed building design will be generated by all state-approved compliance computer programs. The goal is to have all computer programs automatically perform two runs: one run to set the energy budget for the building, and another to calculate the performance of the proposed design. This approach will establish fair, internally-consistent and appropriate energy budgets for a wide range of commercial occupancy types, building types and HVAC system types.

In addition to energy standards, the same custom energy budget approach will be used as the basis for all the major utility company energy rebate and incentive programs.

Gabel Dodd Associates will release a state-approved version of DOE-2 with a new COMPLY 24 interface sometime next spring for use with the 1992 standards. The new graphic user interface will run under DOS and feature drop-down menus.

Requirements
The DOE-2 module of COMPLY 24 requires:

- IBM-PC 386 or 486 computer with or without a graphics monitor

- 2 MB of RAM, 1.36 MB Extended

- Hard drive (minimum of 20 MB available)

- 80387 co-processor with 386 machines

- Any standard printer, 80 characters per line and 25 lines per screen

- Microsoft- or Logitech-compatible mouse is optional

Free Demonstration Version and Program Support
A free, no obligation demonstration version of COMPLY 24, Version 3.2, will soon be available for review. The demonstration package allows the user to learn and test all functions of the program. COMPLY 24 with the DOE-2.1D module lists for $995 and is available directly from Gabel Dodd Associates. It comes with a complete user manual containing easy-to-understand, step-by-step lessons in program use; clear and concise explanations of the data entered; and a reference card and worksheets. Program purchase entitles the user to a free seminar on the California energy standards and the use of the program. The program License Agreement includes user support and free updates for a minimum of one year from purchase date. Gabel Dodd Associates provides free phone support for COMPLY 24 as part of the program purchase, but does not offer support for DOE-2 outside of the COMPLY 24 interface.

Alphabetical List of Commands and Keywords found in DOE-2.1D

In an attempt to bring some order to the many pieces of DOE-2 documentation, we have compiled an alphabetical list of all commands and keywords found in the program. Commands are bold-faced and indicated with a bullet (•). To the right of each command/keyword is its abbreviation, followed by the subprogram where it resides and, for a keyword, the command with which it is associated. The subprograms have been shortened to a single letter designation (L = LOADS, S = SYSTEMS, P = PLANT, E = ECONOMICS). The next three columns list page numbers where the word can be found. The last column shows the program version and date when the command/keyword was introduced.

When the *Basics of DOE-2* manual is finished, it will be added to the list. Note that there are no columns for the *Engineers Manual* nor the *Users Guide*. It is hoped that keywords (and perhaps subroutines) found in the *Engineers Manual* can be included in the near future. With reference to the *Users Guide*, we feel that this document is out of date and should not be referred to; instead, the *Basics of DOE-2* manual is meant to take its place. Availability of the *Basics of DOE-2* manual will be announced in the "User News".

This list is most definitely "work in progress"! If you find errors or omissions, please contact us.

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program Version	year added
•ABORT		LSPE	1,19,31,41	ii	II.19	2.0—2/15/79	
ABSOR1–CAP–FT		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSOR1–HIR		P — PLANT–PARAMETERS	34		V.22	2.1—5/15/80	
ABSOR1–HIR–FPLR		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSOR1–HIR–FT		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSOR2–CAP–FT		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSOR2–HIR		P — PLANT–PARAMETERS	34		V.22	2.1—5/15/80	
ABSOR2–HIR–FPLR		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSOR2–HIR–FT		P — EQUIPMENT–QUAD	37		V.40	2.1—5/15/80	
ABSORG–CAP–FT		P — EQUIPMENT–QUAD	37	4.17,4.18		2.1D—6/30/89	
ABSORG–FUEL		P — PLANT–PARAMETERS	34	4.17,4.18		2.1D—6/30/89	
ABSORG–HCAPR		P — PLANT–PARAMETERS	34	4.18		2.1D—6/30/89	
ABSORG–HCAP–FQC		P — EQUIPMENT–QUAD	37	4.16,4.18		2.1D—6/30/89	
ABSORG–HEAT–XEFF		P — PLANT–PARAMETERS	34	4.17,4.18		2.1D—6/30/89	
ABSORG–HIR		P — PLANT–PARAMETERS	34	4.18		2.1D—6/30/89	
ABSORG–HIR1–FTI		P — EQUIPMENT–QUAD	37	4.16,4.18		2.1D—6/30/89	
ABSORG–HIR–FPLR		P — EQUIPMENT–QUAD	37	4.16,4.18		2.1D—6/30/89	

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
ABSORG–HIR–FT		P — EQUIPMENT–QUAD	37	4.16,4.18		2.1D—6/30/89
ABSORPTANCE	ABS	L — CONSTRUCTION	5		III.82	2.0—2/15/79
ABSOR–TO–TWR–WTR	A–T–T–W	P — PLANT–PARAMETERS	35		V.23,V.26	2.0—2/15/79
AIR–CHANGES/HR	A–C/HR	L — SPACE–CONDITIONS	9		III.50	2.0—2/15/79
		S — ZONE–AIR	21	3.24	IV.189	2.0—2/15/79
AIR–FLOW–CTRL–DT	A–F–C–DT	L — WALL–PARAMETERS	5	2.8		2.1C—5/15/84
AIR–FLOW–RATE	A–F–R	L — WALL–PARAMETERS	5	2.8		2.1C—5/15/84
AIR–FLOW–TYPE	A–F–T	L — WALL–PARAMETERS	5	2.6		2.1C—5/15/84
ALTITUDE	ALT	L — BUILDING–LOCATION	2		III.30	2.0—2/15/79
ANNUAL–COST	A–C	E — COMPONENT–COST	44		VI.8	2.0—2/15/79
AREA	A	L — INTERIOR–WALL	15		III.113	2.0—2/15/79
		L — SPACE	10		III.97	2.0—2/15/79
		L — UNDERGROUND–WALL or –FLOOR	16		III.118	2.0—2/15/79
AREA/PERSON	A/P	L — SPACE–CONDITIONS	7			2.1D—6/30/89
•ASSIGN		LS	17,30	1.6		2.1C—5/15/84
ASSIGNED–CFM	A–CFM	S — ZONE–AIR	21		IV.188	2.0—2/15/79
ASSIGN–CHARGE	A–C	E — ENERGY–COST	42	5.3		2.1C—5/15/84
ASSIGN–SCHEDULE	A–SCH	E — ENERGY–COST	42	5.3		2.1C—5/15/84
		P — LOAD–MANAGEMENT	39		V.60	2.0—2/15/79
ATM–MOISTURE	ATM–M	L — BUILDING–LOCATION	2	2.34,2.44		2.1B—1/15/83
ATM–TURBIDITY	ATM–T	L — BUILDING–LOCATION	2	2.34,2.44		2.1B—1/15/83
AXIS–ASSIGN	A–A	LS — HOURLY–REPORT	17		III.127	2.0A—6/15/79
AXIS–MAX	A–MAX	LS — HOURLY–REPORT	17		III.127	2.0A—6/15/79
AXIS–MIN	A–MIN	LS — HOURLY–REPORT	17		III.128	2.0A—6/15/79
AXIS–TITLES	A–T	LS — HOURLY–REPORT	17		III.127	2.0A—6/15/79
AZIMUTH	AZ	L — BUILDING–LOCATION	2		III.31	2.0—2/15/79
		L — BUILDING–SHADE	6		III.35	2.0—2/15/79
		L — EXTERIOR–WALL or ROOF	11		III.102	2.0A—6/15/79
		L — FIXED–SHADE	6			2.1B—1/15/83
		L — INTERIOR–WALL	15	2.3		2.1C—5/15/84

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•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
		L — SPACE	10		III.97	2.0—2/15/79
		L — TROMBE-WALL-V or -NV	12			2.1B—1/15/83
BASEBOARD-CTRL	B-C	S — ZONE-CONTROL	20	3.21	IV.194	2.0—2/15/79
BASEBOARD-RATING	B-R	S — ZONE	22	3.21	IV.200	2.0—2/15/79
BASEBOARD-SCH	B-SCH	S — SYSTEM-CONTROL	23	3.31	IV.209	2.0—2/15/79
BASEBOARD-SOURCE	BASEB-S	S — SYSTEM	27	3.31	IV.260,IV.262	2.0—2/15/79
•BASELINE		E		VI.9		2.0—2/15/79
BERNOU-1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
BLOCK-CHARGE	B-C	E — CHARGE-ASSIGNMENT	43	5.6		2.1C—5/15/84
BLOCK-RANGE	B-R	E — CHARGE-ASSIGNMENT	43	5.6		2.1C—5/15/84
BLOCK-UNIT	B-U	E — CHARGE-ASSIGNMENT	43	5.6		2.1C—5/15/84
BOILER-BLOW-RAT	B-B-R	P — PLANT-PARAMETERS	34		V.24,V.30	2.0—2/15/79
BOILER-CONTROL		P — PLANT-PARAMETERS	34		V.24,V.30	2.1—5/15/80
BOILER-FUEL	B-F	P — PLANT-PARAMETERS	34		V.24,V.30	2.0A—6/15/79
•BUILDING-LOCATION		L	2	1.4,2.44,2.64	III.30	2.0—2/15/79
•BUILDING-RESOURCE	B-R	L	16		III.39	2.0—2/15/79
•BUILDING-SHADE	B-S	L	6	2.44	III.35	2.0—2/15/79
C-A-LINK	C-A-L	E — CHARGE-ASSIGNMENT	43	5.4		2.1C—5/15/84
•CALCULATE		LS	18,30	1.9		2.1C—5/15/84
CAPACITY-PAYMENT	C-P	E — COST-PARAMETERS	44	5.9		2.1C—5/15/84
CCIRC-DESIGN-T-DROP		P — PLANT-PARAMETERS	35		V.25,V.33	2.1—5/15/80
CCIRC-HEAD		P — PLANT-PARAMETERS	35		V.25,V.33	2.1—5/15/80
CCIRC-IMPELLER-EFF		P — PLANT-PARAMETERS	35		V.25,V.33	2.1—5/15/80
CCIRC-LOSS		P — PLANT-PARAMETERS	35		V.25,V.33	2.1—5/15/80
CCIRC-MIN-PLR		P — PLANT-PARAMETERS	35	4.13		2.1C—5/15/84
CCIRC-MOTOR-EFF		P — PLANT-PARAMETERS	35		V.25,V.33	2.1—5/15/80

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
CCIRC-PUMP-TYPE		P — PLANT-PARAMETERS	35	4.13		2.1C—5/15/84
CCIRC-SIZE-OPT		P — PLANT-PARAMETERS	35	4.13		2.1C—5/15/84
CFM/SQFT		S — ZONE-AIR	21	3.24	IV.189	2.0—2/15/79
CFMINF-0		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
CFMINF-1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
CHANNEL-WIDTH	C-W	L — WALL-PARAMETERS	5	2.61		2.1B—1/15/83
•CHARGE-ASSIGNMENT	C-A	E	43	5.3		2.1C—5/15/84
CHILLER-CONTROL		P — PLANT-PARAMETERS	34		V.22,V.23	2.1—5/15/80
CHILL-WTR-T		P — PLANT-PARAMETERS	35		V.22,V.23	2.0—2/15/79
CHILL-WTR-THROTTLE		P — PLANT-PARAMETERS	35		V.22,V.23	2.1—5/15/80
CLEARNESS	CL	L — DESIGN-DAY	3		III.27	2.0—2/15/79
CLEARNESS-NUMBER	C-N	L — BUILDING-LOCATION	2		III.32	2.0—2/15/79
CLOUD-AMOUNT	C-A	L — DESIGN-DAY	3		III.27	2.0—2/15/79
CLOUD-TYPE	C-T	L — DESIGN-DAY	3		III.27	2.0—2/15/79
COEFFICIENTS	COEF	SP — CURVE-FIT	19		IV.184	2.0—2/15/79
COGEN-TRACK-MODE		P — PLANT-PARAMETERS	36	4.2		2.1C—5/15/84
COGEN-TRACK-SCH		P — PLANT-PARAMETERS	36	4.2		2.1C—5/15/84
COIL-BF	C-BF	S — SYSTEM-EQUIPMENT	26		IV.246	2.1—5/15/80
COIL-BF-FCFM	C-BF-FC	S — SYSTEM-EQUIPMENT	26		IV.247	2.1—5/15/80
COIL-BF-FT	C-BF-FT	S — SYSTEM-EQUIPMENT	26		IV.247	2.1—5/15/80
•COMPONENT-COST	C-C	E	44		VI.6	2.0—2/15/79
COMPONENT-LIFE	C-L	E — COMPONENT-COST	44		VI.6	2.0—2/15/79
COMPRESSOR-TYPE	C-TYPE	S — SYSTEM-EQUIPMENT	26		IV.249	2.1—5/15/80
•COMPUTE ECONOMICS		E	45		II.34	2.0—2/15/79
•COMPUTE LOADS		L	18		II.34	2.0—2/15/79
•COMPUTE PLANT		P	41		II.34	2.0—2/15/79
•COMPUTE SYSTEMS		S	30		II.34	2.0—2/15/79
COMP-TO-TWR-WTR	C-T-T-W	P — PLANT-PARAMETERS	35		V.22,V.23	2.0—2/15/79
CONCHN		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
CONDUCTIVITY	COND	L — MATERIAL	4		III.73	2.0—2/15/79
CONDUCT–SCHEDULE	C–SCH	L — WINDOW	13		III.107	2.0—2/15/79
CONDUCT–TMIN–SCH	C–T–SCH	L — WINDOW	13	2.34,2.53		2.1B—1/15/83
•CONSTRUCTION	CONS	L	5		III.80	2.0—2/15/79
CONSTRUCTION	CONS	L — DOOR	14		III.110	2.1—5/15/80
		L — EXTERIOR–WALL or ROOF	11		III.100	2.0—2/15/79
		L — INTERIOR–WALL	15		III.113	2.0—2/15/79
		L — TROMBE–WALL–V or –NV	12			2.1B—1/15/83
		L — UNDERGROUND–WALL or –FLOOR	16		III.119	2.0—2/15/79
CONSUMABLES	C	P — PLANT–EQUIPMENT	32		V.13	2.0—2/15/79
CONSUMABLES–EXP	C–E	P — PLANT–COSTS	40			2.1B—1/15/83
CONSUMABLES–REF	C–R	P — REFERENCE–COSTS	40		V.94	2.0—2/15/79
COOLING–CAPACITY	C–CAP	S — SYSTEM				2.0A—6/15/79
		S — SYSTEM–EQUIPMENT	26		IV.241	2.1—5/15/80
		S — ZONE	22		IV.201	2.1—5/15/80
COOLING–EIR	C–EIR	S — SYSTEM–EQUIPMENT	26		IV.244	2.1—5/15/80
COOLING–SCHEDULE	C–SCH	S — SYSTEM–CONTROL	23	3.22,3.31	IV.206	2.0—2/15/79
COOL–CAP–FT	C–C–FT	S — SYSTEM–EQUIPMENT	26		IV.241	2.1—5/15/80
COOL–CONTROL	C–C	S — SYSTEM–CONTROL	23		IV.207	2.0—2/15/79
COOL–CTRL–RANGE	C–C–R	S — SYSTEM–EQUIPMENT	26		IV.248	2.1—5/15/80
COOL–EIR–FPLR	C–E–FP	S — SYSTEM–EQUIPMENT	26		IV.244	2.1—5/15/80
COOL–EIR–FT	C–E–FT	S — SYSTEM–EQUIPMENT	26		IV.244	2.1—5/15/80
COOL–FT–MIN	C–FT–MIN	S — SYSTEM–EQUIPMENT	26		IV.245	2.1—5/15/80
COOL–MULTIPLIER	C–M	P — LOAD–MANAGEMENT	39		V.59	2.0—2/15/79
COOL–PEAK–PERIOD	C–P–P	L — BUILDING–LOCATION	2		III.32	2.1—5/15/80
COOL–RESET–SCH	C–R–SCH	S — SYSTEM–CONTROL	23		IV.207	2.0—2/15/79
COOL–SET–SCH	C–S–SCH	S — SYSTEM–CONTROL	23		IV.207	2.0—2/15/79
COOL–SET–T	C–S–T	S — SYSTEM–CONTROL	23		IV.207	2.0—2/15/79
COOL–SH–CAP	C–S–C	S — SYSTEM–EQUIPMENT	26		IV.245	2.1—5/15/80
		S — ZONE	22		IV.201	2.1—5/15/80

●COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
COOL—SH—FT	C—S—FT	S — SYSTEM—EQUIPMENT	26		IV.245	2.1—5/15/80
COOL—STORE—RATE	C—ST—R	P — ENERGY—STORAGE	39		V.73	2.0—2/15/79
COOL—STORE—SCH	C—ST—SCH	P — ENERGY—STORAGE	39		V.73	2.0—2/15/79
COOL—SUPPLY—RATE	C—SU—R	P — ENERGY—STORAGE	39		V.73	2.0—2/15/79
COOL—TEMP—SCH	C—T—SCH	S — ZONE—CONTROL	20		IV.194	2.0—2/15/79
●COST—PARAMETERS	C—P	E	44	5.7		2.1C—5/15/84
CRANKCASE—HEAT	C—H	S — SYSTEM—EQUIPMENT	26		IV.249	2.1—5/15/80
CRANKCASE—MAX—T	C—M—T	S — SYSTEM—EQUIPMENT	26		IV.249	2.1A—5/15/81
CTANK—BASE—T	C—B—T	P — ENERGY—STORAGE	39		V.74	2.0—2/15/79
CTANK—ENV—T	C—E—T	P — ENERGY—STORAGE	39		V.76	2.0—2/15/79
CTANK—FREEZ—T	C—F—T	P — ENERGY—STORAGE	39		V.76	2.0—2/15/79
CTANK—LOSS—COEF	C—L—C	P — ENERGY—STORAGE	39		V.74	2.0—2/15/79
CTANK—T—RANGE	C—T—R	P — ENERGY—STORAGE	39		V.74	2.0—2/15/79
●CURVE—FIT	C—F	SP		19,31	IV.180	2.1A—5/15/81
DATA		SP — CURVE—FIT	19		IV.182	2.1—5/15/80
●DAY—ASSIGN—SCH	D—A—SCH	P	31		V.97	2.0—2/15/79
●DAY—CHARGE—SCH		E	42	5.6		2.1C—5/15/84
●DAY—RESET—SCH	D—R—SCH	S	20,42		IV.176	2.0—2/15/79
●DAY—SCHEDULE	D—SCH	LSP	3,19,31		II.23	2.0—2/15/79
DAYCLS—1		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYCLS—2		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYCLS—3		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYCLS—4		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYCLS—5		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYCLS—6		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
DAYLIGHTING	DAY	L — SPACE—CONDITIONS	9	2.34,2.45		2.1B—1/15/83
DAYLIGHT—REP—SCH	D—R—SCH	L — SPACE—CONDITIONS	9	2.34,2.48		2.1B—1/15/83

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
DAYLIGHT–SAVINGS	D–S	L — BUILDING–LOCATION	2		III.31	2.0—2/15/79
DAYL–FUNCTION		L — BUILDING–LOCATION	2	1.4		2.1C—5/15/84
DAYL–ILLUM–FN		L — SPACE	10	1.4		2.1C—5/15/84
DAYL–LTCTRL–FN		L — SPACE	10	1.4		2.1C—5/15/84
DAYS		LSPE — WEEK–SCHEDULE				2.0—2/15/79
DBUN–CAP–COR–REC		P — PLANT–PARAMETERS	35		V.23,V.27	2.1—5/15/80
DBUN–CAP–FT		P — EQUIPMENT–QUAD	37		V.42	2.1—5/15/80
DBUN–CAP–FTRISE		P — EQUIPMENT–QUAD	37		V.42	2.1—5/15/80
DBUN–COND–T–ENT		P — PLANT–PARAMETERS	35		V.23,V.27	2.1—5/15/80
DBUN–COND–T–REC		P — PLANT–PARAMETERS	35		V.23,V.27	2.1—5/15/80
DBUN–EIR–COR–REC		P — PLANT–PARAMETERS	35		V.23,V.27	2.1—5/15/80
DBUN–EIR–FPLR		P — EQUIPMENT–QUAD	37		V.42	2.1—5/15/80
DBUN–EIR–FT		P — EQUIPMENT–QUAD	37		V.42	2.1—5/15/80
DBUN–EIR–FTRISE		P — EQUIPMENT–QUAD	37		V.42	2.1—5/15/80
DBUN–HT–REC–RAT		P — PLANT–PARAMETERS	35		V.23,V.27	2.1—5/15/80
DBUN–MIN–HEAT		P — PLANT–PARAMETERS	35	4.2		2.1C—5/15/84
DBUN–TO–TWR–WTR	D–T–T–W	P — PLANT–PARAMETERS	35		V.22,V.23	2.0—2/15/79
DBUN–UNL–RAT–DES		P — PLANT–PARAMETERS	35		V.23,V.28	2.1—5/15/80
DBUN–UNL–RAT–REC		P — PLANT–PARAMETERS	35		V.23,V.28	2.1—5/15/80
DDSF–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DDSF–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DEFROST–DEGRADE	D–D	S — SYSTEM–EQUIPMENT	26	3.15	IV.251	2.1—5/15/80
DEFROST–T	D–T	S — SYSTEM–EQUIPMENT	26	3.15	IV.251	2.1—5/15/80
DEMAND–1	D–1	P — HEAT–RECOVERY	38		V.66	2.0—2/15/79
DEMAND–2	D–2	P — HEAT–RECOVERY	38		V.66	2.0—2/15/79
DEMAND–5	D–5	P — HEAT–RECOVERY	38		V.66	2.0—2/15/79
DEM–AVERAGE–MON1	D–A–M1	E — COST–PARAMETERS	44	5.8		2.1C—5/15/84
DEM–AVERAGE–MON2	D–A–M2	E — COST–PARAMETERS	44	5.8		2.1C—5/15/84
DEM–PERIOD–T1	D–P–T1	E — COST–PARAMETERS	44	5.7		2.1C—5/15/84

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•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
DEM-PERIOD-T2	D-P-T2	E — COST-PARAMETERS	44	5.7		2.1C—5/15/84
DEM-RATCHET-FRC1	D-R-F1	E — COST-PARAMETERS	44	5.8		2.1C—5/15/84
DEM-RATCHET-FRC2	D-R-F2	E — COST-PARAMETERS	44	5.8		2.1C—5/15/84
DEM-RATCHET-T1	D-R-T1	E — COST-PARAMETERS	44	5.7		2.1C—5/15/84
DEM-RATCHET-T2	D-R-T2	E — COST-PARAMETERS	44	5.7		2.1C—5/15/84
DENSITY	DENS	L — MATERIAL	4		III.73	2.0A—6/15/79
DEPTH	D	L — MATERIAL				2.0—2/15/79
		L — SPACE	10		III.97	2.0—2/15/79
DESFO-0		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESFO-1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESIGN		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESIGN-COOL-T	D-C-T	S — ZONE-CONTROL	20		IV.194	2.0—2/15/79
•DESIGN-DAY	D-D	L	3		III.125	2.0—2/15/79
DESIGN-HEAT-T	D-H-T	S — ZONE-CONTROL	20		IV.193	2.0—2/15/79
DESIND-0		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESIND-1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESPIU-0		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DESPIU-1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
DEWPT-HI	DP-H	L — DESIGN-DAY	3		III.27	2.0—2/15/79
DEWPT-LO	DP-L	L — DESIGN-DAY	3		III.27	2.0—2/15/79
DHOUR-HI	DH-H	L — DESIGN-DAY	3		III.27	2.0—2/15/79
DHOUR-LO	DH-L	L — DESIGN-DAY	3		III.27	2.0—2/15/79
DHW-HEATER-FUEL		P — PLANT-PARAMETERS	34		V.24,V.30,V.31	2.1—5/15/80
DHW-HIR		P — PLANT-PARAMETERS	34		V.24,V.30,V.31	2.1—5/15/80
DHW-HIR-FPLR		P — EQUIPMENT-QUAD	37		V.45	2.1—5/15/80
•DIAGNOSTIC		LSPE	1,19, 31,42		II.16	2.0—2/15/79
DIESEL-EXH-EFF		P — PLANT-PARAMETERS	38	4.8		2.1C—5/15/84
DIESEL-EXH-FPLR		P — EQUIPMENT-QUAD	38	4.9	V.46	2.1C—5/15/84

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•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
DIESEL–FUEL	D–F	P — EQUIPMENT–QUAD				2.0A—6/15/79
		P — PLANT–PARAMETERS	36		V.31	2.0—2/15/79
DIESEL–GEN–EFF		P — PLANT–PARAMETERS	36	4.8		2.1C—5/15/84
DIESEL–I/O–FPLR		P — EQUIPMENT–QUAD	38	4.9	V.46	2.1—5/15/80
DIESEL–J/L–EFF		P — PLANT–PARAMETERS	36	4.8		2.1C—5/15/84
DIESEL–JCLB–FPLR		P — EQUIPMENT–QUAD	38	4.9		2.1C—5/15/84
DIESEL–TEX–FPLR		P — EQUIPMENT–QUAD	38	4.10	V.46	2.1—5/15/80
DIESEL–TRACK–MOD		P — PLANT–PARAMETERS	36	4.2		2.1C—5/15/84
DISCOUNT–RATE	D–R	P — PLANT–COSTS	40		V.91	2.0—2/15/79
DIVIDE		LS — HOURLY–REPORT	17		III.128	2.0A—6/15/79
DKTEMP–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DKTEMP–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DKTEMP–2		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DKTEMP–3		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DOETRM–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DOETRM–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
•DOOR		L	14	2.55,2.65	III.69,III.110	2.1—5/15/80
DOORWAY–H	D–H	L — WALL–PARAMETERS	5	2.9		2.1C—5/15/84
DOORWAY–W	D–W	L — WALL–PARAMETERS	5	2.9		2.1C—5/15/84
DOUBLE–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DOUBLE–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
DRYBULB–HI	DB–H	L — DESIGN–DAY	3		III.26	2.0—2/15/79
DRYBULB–LO	DB–L	L — DESIGN–DAY	3		III.26	2.0—2/15/79
DUCT–AIR–LOSS	D–A–L	S — SYSTEM–AIR	23		IV.217	2.1—5/15/80
DUCT–DELTA–T	D–D–T	S — SYSTEM–AIR	23		IV.217	2.1—5/15/80
EBAL–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
EBAL–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
ECONO–1		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
ECONO–2		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
ECONO–3		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
ECONO–4		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
ECONO–LIMIT–T	E–L–T	S — SYSTEM–CONTROL	23		IV.210	2.0—2/15/79
ECONO–LOW–LIMIT	E–L–L	S — SYSTEM–CONTROL	23	3.23		2.1B—1/15/83
•ECONOMICS–REPORT	E–R	E	45		VI.12	2.0—2/15/79
ELEC–DHW–LOSS		P — PLANT–PARAMETERS	34		V.24,V.31	2.1—5/15/80
ELEC–INPUT–RATIO	E–I–R	P — PART–LOAD–RATIO	33	4.18,4.21	V.18	2.0—2/15/79
ELEC–KW	E–KW	L — BUILDING–RESOURCE	16		III.40	2.0—2/15/79
ELEC–MULTIPLIER	E–M	P — LOAD–MANAGEMENT	39		V.59	2.0—2/15/79
ELEC–SALES–ASG	E–S–A	E — COST–PARAMETERS	44	5.9		2.1C—5/15/84
ELEC–SALES–ESCL	E–S–E	E — COST–PARAMETERS	44	5.9		2.1C—5/15/84
ELEC–SALES–OPT	E–S–O	E — COST–PARAMETERS	44	5.8		2.1C—5/15/84
ELEC–SALES–SCH	E–S–SCH	E — COST–PARAMETERS	44	5.9		2.1C—5/15/84
ELEC–SCHEDULE	E–SCH	L — BUILDING–RESOURCE	16		III.40	2.0—2/15/79
EMISSIVITY	EM	L — WALL–PARAMETERS	5	2.61		2.1B—1/15/83
•END		LSPE	17,30, 41,45		II.33	2.0—2/15/79
•END–FUNCTION		LS	18,30	1.9		2.1C—5/15/84
•ENERGY–COST	E–C	E	42	5.1	V.83	2.0—2/15/79
ENERGY–COST	E–C	E — BASELINE	44		VI.11	2.0—2/15/79
•ENERGY–RESOURCE	E–R	P	39	4.14		2.1C—5/15/84
ENERGY–USE–SITE	E–U–SITE	E — BASELINE	44		VI.11	2.0—2/15/79
ENERGY–USE–SRC	E–U–SRC	E — BASELINE	44		VI.11	2.0—2/15/79
•ENERGY–STORAGE	E–S	P	39		V.73	2.0—2/15/79
ENG–CH–CAP–FT		P — EQUIPMENT–QUAD	37	4.20,4.21		2.1D—6/30/89
ENG–CH–COND–TYPE		P — PLANT–PARAMETERS	34	4.20,4.21		2.1D—6/30/89
ENG–CH–COP		P — PLANT–PARAMETERS	34	4.21		2.1D—6/30/89

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
ENG–CH–COP–FPLR1		P — EQUIPMENT–QUAD	37	4.19,4.21		2.1D—6/30/89
ENG–CH–COP–FPLR2		P — EQUIPMENT–QUAD	37	4.19,4.21		2.1D—6/30/89
ENG–CH–COP–FPLRS		P — EQUIPMENT–QUAD	37	4.19,4.21		2.1D—6/30/89
ENG–CH–COP–FT		P — EQUIPMENT–QUAD	37	4.19,4.21		2.1D—6/30/89
ENG–CH–COP–FTS		P — EQUIPMENT–QUAD	37	4.19,4.21		2.1D—6/30/89
ENG–CH–FUEL		P — PLANT–PARAMETERS	34	4.20,4.21		2.1D—6/30/89
ENG–CH–HREJ–FPLR		P — EQUIPMENT–QUAD	37	4.20,4.21		2.1D—6/30/89
ENG–CH–HREJ–FT		P — EQUIPMENT–QUAD	37	4.20,4.21		2.1D—6/30/89
ENG–CH–IDLE–RAT		P — PLANT–PARAMETERS	34	4.21		2.1D—6/30/89
ENG–CH–REC–EFF		P — PLANT–PARAMETERS	34	4.21		2.1D—6/30/89
EQUIPMENT–KW	E–KW	L — SPACE–CONDITIONS	7		III.46	2.0—2/15/79
EQUIPMENT–LIFE	E–L	P — PLANT–EQUIPMENT	32		V.14	2.0—2/15/79
•EQUIPMENT–QUAD	E–Q	P	37,38	4.9	V.38	2.1—5/15/80
EQUIPMENT–W/SQFT	E–W	L — SPACE–CONDITIONS	7		III.47	2.0—2/15/79
EQUIP–LATENT	E–L	L — SPACE–CONDITIONS	7		III.47	2.0—2/15/79
EQUIP–SCHEDULE	E–SCH	L — SPACE–CONDITIONS	7		III.46	2.0—2/15/79
EQUIP–SENSIBLE	E–S	L — SPACE–CONDITIONS	7		III.47	2.0—2/15/79
ESCALATION	E	E — ENERGY–COST	42	5.2		2.0—2/15/79
EXHAUST–CFM	E–CFM	S — ZONE–AIR	21		IV.190	2.0—2/15/79
EXHAUST–EFF	E–E	S — ZONE–AIR	21		IV.190	2.0—2/15/79
EXHAUST–KW	E–KW	S — ZONE–AIR	21		IV.191	2.1—5/15/80
EXHAUST–STATIC	E–S	S — ZONE–AIR	21		IV.190	2.0—2/15/79
•EXTERIOR–WALL or –ROOF	E–W	L	11	2.10,2.55	III.100	2.0—2/15/79
E–HW–BOILER–LOSS		P — PLANT–PARAMETERS	34		V.24	2.1—5/15/80
E–STM–BOILER–LOSS		P — PLANT–PARAMETERS	34		V.24	2.1—5/15/80
FANPWR		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
FAN–CONTROL	F–C	S — SYSTEM-FANS	24	3.31	IV.221	2.0—2/15/79
FAN–EIR–FPLR	F–E–FPLR	S — SYSTEM-FANS	24		IV.228	2.1—5/15/80
FAN–KW	F–KW	L — WALL-PARAMETERS	5	2.9		2.1B—1/15/83
FAN–PLACEMENT	F–P	S — SYSTEM-FANS	24		IV.226	2.0—2/15/79
FAN–SCHEDULE	F–SCH	S — SYSTEM-FANS	24	3.17,3.31	IV.221	2.0—2/15/79
FCOIL–0		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FCOIL–1Z		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FCOIL–2Z		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FCOIL–3=		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FIRST–COST	F–C	E — BASELINE	44		VI.9	2.0—2/15/79
		E — COMPONENT-COST	44		VI.6	2.0—2/15/79
		P — PLANT-EQUIPMENT	32		V.13	2.0—2/15/79
FIRST–COST–EXP	F–C–E	P — PLANT-COSTS	40			2.1B—1/15/83
FIRST–COST–REF	F–C–R	P — REFERENCE-COSTS	40		V.94	2.0—2/15/79
FIXED–MONTH–CHG1	F–M–C1	E — ENERGY-COST	42	5.3		2.1C—5/15/84
FIXED–MONTH–CHG2	F–M–C2	E — ENERGY-COST	42	5.3		2.1C—5/15/84
•FIXED–SHADE	F–S	L	6	2.44,2.63		2.1C—5/15/84
FLOOR–MULTIPLIER	F–M	L — SPACE	10	2.81		2.1B—1/15/83
		S — ZONE	22			2.1B—1/15/83
FLOOR–WEIGHT	F–W	L — SPACE-CONDITIONS	7		III.51	2.0—2/15/79
FLUID–HEAT–CAP	F–H–C	S — SYSTEM-FLUID	25		IV.235	2.0—2/15/79
FOR		L — SET-DEFAULT	2			2.0—2.15.79
		L — WALL-PARAMETERS	5	2.6,2.61		2.1B—1/15/83
FNSYS1–1		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FNSYS1–2Z		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FNSYS1–3Z		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FNSYS1–4Z		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FNSYS1–5		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FRAC–LEAK–AREA	F–L–A	L — SPACE-CONDITIONS	9	2.74		2.1B—1/15/83

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
FRAC-VENT-AREA	F-V-A	S — SYSTEM-AIR	23	3.33,3.34		2.1D—6/30/89
FTDEV		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
•FUNCTION		LS	17,30			2.1D—6/30/89
FUNCTION		L — BUILDING-LOCATION	2	1.3		2.1C—5/15/84
		L — DOOR	14	1.3		2.1C—5/15/84
		L — EXTERIOR-WALL or ROOF	11	1.3		2.1C—5/15/84
		S — PLANT-ASSIGNMENT	29	1.3		2.1D—6/30/89
		L — SPACE	10	1.3		2.1C—5/15/84
		S — SYSTEM	27	1.3		2.1D—6/30/89
		L — UNDERGROUND-WALL or -FLOOR	16	1.3		2.1C—5/15/84
		L — WINDOW	13	1.3		2.1C—5/15/84
		S — ZONE	22	1.3		2.1D—6/30/89
FURNAC		S — SUBR-FUNCTIONS	29	1.5		2.1D—6/30/89
FURNACE-AUX	F-A	P — PLANT-PARAMETERS	34		V.24,V.31	2.1—5/15/80
		S — SYSTEM-EQUIPMENT	26		IV.252	2.1—5/15/80
FURNACE-FUEL		P — PLANT-PARAMETERS	34		V.24,V.31	2.1—5/15/80
FURNACE-HIR	F-HIR	P — PLANT-PARAMETERS	34		V.24,V.31	2.1—5/15/80
		S — SYSTEM-EQUIPMENT	26		IV.252	2.1—5/15/80
FURNACE-HIR-FPLR	F-H-FP	P — EQUIPMENT-QUAD	37		V.45	2.1—5/15/80
		S — SYSTEM-EQUIPMENT	26		IV.252	2.1—5/15/80
FURNACE-OFF-LOSS	F-O-L	S — SYSTEM-EQUIPMENT	26		IV.252	2.1—5/15/80
FURNITURE-TYPE	F-TYPE	L — SPACE-CONDITIONS	7		III.53	2.1—5/15/80
FURN-FRACTION	F-F	L — SPACE-CONDITIONS	7		·III.53	2.1—5/15/80
FURN-WEIGHT	F-WGT	L — SPACE-CONDITIONS	7		III.53	2.1—5/15/80
GAS-SCHEDULE	G-SCH	L — BUILDING-RESOURCE	16		III.39	2.0—2/15/79
GAS-THERMS	G-T	L — BUILDING-RESOURCE	16		III.39	2.0—2/15/79
GLARE-CTRL-PROB	G-C-P	L — WINDOW	13	2.34,2.53		2.1B—1/15/83
GLASS-CONDUCTANCE	G-C	L — GLASS-TYPE	6		III.88	2.0—2/15/79
•GLASS-TYPE	G-T	L	6	2.6,2.45,2.77	III.87	2.0—2/15/79

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
GLASS—TYPE	G—T	L — WINDOW	13		III.107	2.0—2/15/79
GLASS—TYPE—CODE	G—T—C	L — GLASS—TYPE	6	2.77	III.87	2.0—2/15/79
GND—FORM—FACTOR	G—F—F	L — DOOR	14		III.110	2.1—5/15/80
		L — EXTERIOR WALL or ROOF	11		III.100	2.0—2/15/79
		L — TROMBE—WALL—V or —NV	12			2.1B—1/15/83
		L — WINDOW	13		III.107	2.0—2/15/79
GND—REFLECTANCE	G—R	L — EXTERIOR WALL or ROOF	11		III.10	2.0—2/15/79
		L — TROMBE—WALL—V or —NV	12			2.1B—1/15/83
GROSS—AREA	G—A	L — BUILDING—LOCATION	2		III.32	2.0—2/15/79
GROUND—T	G—T	L — BUILDING—LOCATION	2		III.32	2.0—2/15/79
		L — DESIGN—DAY	3		III.27	2.0—2/15/79
GTURB—CAP—FT		P — EQUIPMENT—QUAD	38	4.10		2.1C—5/15/84
GTURB—EXH—EFF		P — PLANT—PARAMETERS	36	4.8		2.1C—5/15/84
GTURB—EXH—FPLR		P — EQUIPMENT—QUAD	38	4.10		2.1C—5/15/84
GTURB—FUEL	G—F	P — PLANT—PARAMETERS	36		V.24,V.31	2.0A—6/15/79
GTURB—GEN—EFF		P — PLANT—PARAMETERS	36	4.8		2.1C—5/15/84
GTURB—I/O—FPLR		P — EQUIPMENT—QUAD	38	4.10	V.46	2.1—5/15/80
GTURB—TEX—FPLR		P — EQUIPMENT—QUAD	38	4.10	V.47	2.1—5/15/80
HCIRC—DESIGN—T—DROP		P — PLANT—PARAMETERS	35		V.25	2.1—5/15/80
HCIRC—HEAD		P — PLANT—PARAMETERS	35		V.25	2.1—5/15/80
HCIRC—IMPELLER—EFF		P — PLANT—PARAMETERS	35		V.25	2.1—5/15/80
HCIRC—LOSS		P — PLANT—PARAMETERS	35		V.25	2.1—5/15/80
HCIRC—MIN—PLR		P — PLANT—PARAMETERS	35	4.13		2.1C—5/15/84
HCIRC—MOTOR—EFF		P — PLANT—PARAMETERS	35		V.25	2.1—5/15/80
HCIRC—PUMP—TYPE		P — PLANT—PARAMETERS	35	4.13		2.1C—5/15/84
HCIRC—SIZE—OPT		P — PLANT—PARAMETERS	35	4.13		2.1C—5/15/84
HCOIL—WIPE—FCFM	H—W—FC	S — SYSTEM				2.1—5/15/80
		S — SYSTEM—EQUIPMENT	26		IV.251	2.1A—5/15/81

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
HE		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HEATING–CAPACITY	H–CAP	S — SYSTEM		3.31		2.0A—6/15/79
		S — SYSTEM–EQUIPMENT	26	3.31	IV.249	2.1—5/15/80
		S — ZONE	22		IV.201	2.1—5/15/80
HEATING–EIR	H–EIR	S — SYSTEM–EQUIPMENT	26	3.15	IV.250	2.1—5/15/80
HEATING–SCHEDULE	H–SCH	S — SYSTEM–CONTROL	23	3.22,3.31	IV.203	2.0—2/15/79
HEAT–CAP–FT	H–C–FT	S — SYSTEM–EQUIPMENT	26	3.15	IV.249	2.1—5/15/80
HEAT–CONTROL	H–C	S — SYSTEM–CONTROL	23		IV.204	2.0—2/15/79
HEAT–EIR–FPLR	H–E–FP	S — SYSTEM–EQUIPMENT	26	3.15	IV.250	2.1—5/15/80
HEAT–EIR–FT	H–E–FT	S — SYSTEM–EQUIPMENT	26	3.15	IV.250	2.1—5/15/80
HEAT–MULTIPLIER	H–M	P — LOAD–MANAGEMENT	39		V.59	2.0—2/15/79
HEAT–PEAK–PERIOD	H–P–P	L — BUILDING–LOCATION	2		III.32	2.1—5/15/80
•HEAT–RECOVERY	HEAT–R	P	38	44	V.66	2.0—2/15/79
HEAT–RESET–SCH	H–R–SCH	S — SYSTEM–CONTROL	23		IV.205	2.0—2/15/79
HEAT–SET–SCH	H–S–SCH	S — SYSTEM–CONTROL	23		IV.205	2.0—2/15/79
HEAT–SET–T	H–S–T	S — SYSTEM–CONTROL	23		IV.205	2.0—2/15/79
HEAT–SOURCE	HEAT–S	S — SYSTEM	27	3.31	IV.259	2.0—2/15/79
HEAT–STORE–RATE	H–ST–R	P — ENERGY–STORAGE	39		V.73	2.0—2/15/79
HEAT–STORE–SCH	H–ST–SCH	P — ENERGY–STORAGE	39		V.74	2.0—2/15/79
HEAT–SUPPLY–RATE	H–SU–R	P — ENERGY–STORAGE	39		V.73	2.0—2/15/79
HEAT–TEMP–SCH	H–T–SCH	S — ZONE–CONTROL	20	3.21	IV.193	2.0—2/15/79
HEIGHT	H	L — BUILDING–SHADE	6		III.35	2.0—2/15/79
		L — DOOR	14		III.110	2.1—5/15/80
		L — EXTERIOR–WALL or ROOF	11		III.102	2.0—2/15/79
		L — FIXED–SHADE	6			2.1B—1/15/83
		L — INTERIOR–WALL	15		III.113	2.1—5/15/80
		L — SPACE	10		III.97	2.0—2/15/79
		L — TROMBE–WALL–V or –NV	12			2.1B—1/15/83
		L — UNDERGROUND–WALL or –FLOOR	16		III.118	2.1—5/15/80
		L — WINDOW	13		III.108	2.0—2/15/79

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
HERM—CENT—CAP—FT		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—CENT—COND—PWR		P — PLANT—PARAMETERS	34		V.23,V.26	2.1—5/15/80
HERM—CENT—COND—TYPE		P — PLANT—PARAMETERS	34		V.23,V.26	2.1—5/15/80
HERM—CENT—EIR—FPLR		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—CENT—EIR—FT		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—CENT—UNL—RAT		P — PLANT—PARAMETERS	34		V.23,V.26	2.1—5/15/80
HERM—REC—CAP—FT		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—REC—COND—PWR		P — PLANT—PARAMETERS	34		V.23,V.26	2.1—5/15/80
HERM—REC—COND—TYPE		P — PLANT—PARAMETERS	34		V.23,V.26	2.1—5/15/80
HERM—REC—EIR—FPLR		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—REC—EIR—FT		P — EQUIPMENT—QUAD	37		V.41	2.1—5/15/80
HERM—REC—UNL—RAT		P — PLANT—PARAMETERS	34		V.23	2.1—5/15/80
HOLIDAY	HOL	L — BUILDING—LOCATION	2		III.31	2.0—2/15/79
HOR—LEAK—FRAC	H—L—F	L — SPACE—CONDITIONS	9	2.74		2.1B—1/15/83
HOR—VENT—FRAC	H—V—F	S — SYSTEM—AIR	23	3.33,3.34		2.1D—6/30/89
HOT—WATER	H—W	L — BUILDING—RESOURCE	16		III.39	2.0—2/15/79
HOURIN		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
HOUR—HI	H—H	L — DESIGN—DAY	3		III.26	2.0—2/15/79
HOUR—LO	H—L	L — DESIGN—DAY	3		III.26	2.0—2/15/79
HOURLY—DATA—SAVE	H—D—S	L — LOADS—REPORT	17	1.26		2.1D—6/30/89
		P — PLANT—REPORT	40	1.26		2.1D—6/30/89
		S — SYSTEMS—REPORT	29	1.26		2.1D—6/30/89
•HOURLY—REPORT	H—R	LS	17,30,41		II.32,III.127, IV.273,V.103	2.0—2/15/79
HOURS		LSP — DAY—SCHEDULE		1.28		2.0—2/15/79
HOURS—USED	H—U	P — PLANT—EQUIPMENT	32		V.4	2.0—2/15/79
HPUNIT		S — SUBR—FUNCTIONS	29	1.5		2.1D—6/30/89
HP—SUPP—HT—CAP	S—H—C	S — SYSTEM—EQUIPMENT	26	3.15		2.1C—5/15/84
HP—SUPP—SOURCE	SUPP—S	S — SYSTEM—EQUIPMENT	26	3.15		2.1C—5/15/84

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
HR8PL–FWB1WB6	HRPL–FWB	S — SYSTEM–EQUIPMENT	27	3.31		2.1D—6/30/89
HR8–FWB1WB6	HR–FWB	S — SYSTEM–EQUIPMENT	27	3.31		2.1D—6/30/89
HTANK–BASE–T	H–B–T	P — ENERGY–STORAGE	39		V.74	2.0—2/15/79
HTANK–ENV–T	H–E–T	P — ENERGY–STORAGE	39		V.76	2.0—2/15/79
HTANK–FREEZ–T	H–F–T	P — ENERGY–STORAGE	39		V.76	2.0—2/15/79
HTANK–LOSS–COEF	H–L–C	P — ENERGY–STORAGE	39		V.74	2.0—2/15/79
HTANK–T–RANGE	H–T–R	P — ENERGY–STORAGE	39		V.74	2.0—2/15/79
HTPUMP–0Z		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HTPUMP–1Z		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HTPUMP–2		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HUMIDIFIER–TYPE	H–TYPE	S — SYSTEM	27	3.23		2.1B—1/15/83
HVUNIT–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HVUNIT–1Z		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HVUNIT–2		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HVUNIT–3		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
HW–BOILER–HIR		P — PLANT–PARAMETERS	34		V.24,V.30	2.1—5/15/80
HW–BOILER–HIR–FPLR		P — EQUIPMENT–QUAD	37		V.45	2.1—5/15/80
HW–SCHEDULE	HW–SCH	L — BUILDING–RESOURCE	16		III.39	2.0—2/15/79
INDUCTION–RATIO	I–R	S — SYSTEM–TERMINAL	25		IV.231	2.0—2/15/79
INDUC–0		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
INDUC–1Z		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
INDUC–2		S — SUBR–FUNCTIONS	29	1.5		2.1D—6/30/89
INDUC–MODE–SCH	I–M–SCH	S — SYSTEM–FLUID	25		IV.234	2.0—2/15/79
INF–CFM/SQFT	I–CFM	L — SPACE–CONDITIONS	9		III.50	2.0—2/15/79
INF–COEF	I–C	L — DOOR	14		III.110	2.1—5/15/80
		L — EXTERIOR–WALL or ROOF	11		III.101	2.0—2/15/79
		L — TROMBE–WALL–V or –NV	12			2.1B—1/15/83

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
		L — WINDOW	13		III.107	2.0—2/15/79
INF—METHOD	I—M	L — SPACE-CONDITIONS	9		III.49	2.0—2/15/79
INF—SCHEDULE	I—SCH	L — SPACE-CONDITIONS	9		III.49	2.0—2/15/79
•INPUT ECONOMICS		E	42		II.15,III.21	2.0—2/15/79
•INPUT LOADS		L	1		II.15,III.21	2.0—2/15/79
•INPUT PLANT		P	31		II.15,III.21	2.0—2/15/79
•INPUT SYSTEMS		S	19		II.15,III.21	2.0—2/15/79
INPUT—UNITS		INPUT—ECONOMICS	42			2.0—2/15/79
		INPUT—LOADS	1			2.1B—1/15/83
		INPUT—PLANT	31			2.1B—1/15/83
		INPUT—SYSTEMS	19			2.1B—1/15/83
		LIBRARY—INPUT LOADS	1			2.1—5/15/80
		METRIC (option)		1.27		2.1B—1/15/83
		PARAMETRIC—INPUT		1.27		2.1B—1/15/83
		ECONOMICS	42			2.1B—1/15/83
		LOADS	1			2.1B—1/15/83
		PLANT	31			2.1B—1/15/83
		SYSTEMS	19			2.1B—1/15/83
INSIDE—EMISS	I—E	L — GLASS-TYPE	6	2.77		2.1B—1/15/83
INSIDE—FILM—RES	I—F—R	L — LAYERS	5		III.76	2.0—2/15/79
INSIDE—SOL—ABS	I—S—A	L — EXTERIOR-WALL or ROOF	11	2.10		2.1C—5/15/84
		L — INTERIOR-WALL	15	2.10		2.1C—5/15/84
		L — TROMBE-WALL-V or -NV	12			2.1C—5/15/84
		L — UNDERGROUND-WALL or -FLOOR	16	2.10		2.1C—5/15/84
INSIDE—VIS—REFL	I—V—R	L — DOOR	14	2.34,2.55		2.1B—1/15/83
		L — EXTERIOR-WALL or ROOF	11	2.34,2.55		2.1B—1/15/83
		L — INTERIOR-WALL	15	2.34,2.55		2.1B—1/15/83
		L — TROMBE-WALL-V or -NV	12			2.1B—1/15/83
		L — UNDERGROUND-WALL or -FLOOR	16	2.34,2.55		2.1B—1/15/83
		L — WINDOW	13	2.34,2.55		2.1B—1/15/83
INSTALLATION	I	P — PLANT-EQUIPMENT	32		V.13	2.0—2/15/79
INSTALLATION—EXP		P — PLANT-COSTS	40			2.1B—1/15/83

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•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
INSTALLATION-REF	I-R	P — REFERENCE-COSTS	40		V.94	2.0—2/15/79
INSTALLED-NUMBER	I-N	P — PLANT-EQUIPMENT	32		V.11.1	2.0—2/15/79
INSTALL-COST	I-C	E — COMPONENT-COST	44		VI.6	2.0—2/15/79
INT-WALL-TYPE	I-W-TYPE	L — INTERIOR-WALL	15	2.82		2.1B—1/15/83
•INTERIOR-WALL	I-W)	L	15	2.3,2.10, 2.55,2.82	III.69, III.113	2.0—2/15/79
KWH/KW-DEM-TYPE	K-D-T	E — COST-PARAMETERS	44	5.8		2.1C—5/15/84
LABOR	L	P — PLANT-COSTS	40		V.91	2.0—2/15/79
LABOR-INFLTN	L-I	P — PLANT-COSTS	40		V.91	2.0—2/15/79
LATITUDE	LAT	L — BUILDING-LOCATION	2		III.30	2.0—2/15/79
•LAYERS	LA)	L	5		III.76	2.0—2/15/79
LAYERS	LA	L — CONSTRUCTION	5		III.80	2.0—2/15/79
LEFT-FIN-A	L-F-A	L — DOOR	14	2.66		2.1B—1/15/83
		L — WINDOW	13	2.66		2.1B—1/15/83
LEFT-FIN-B	L-F-B	L — DOOR	14	2.66		2.1B—1/15/83
		L — WINDOW	13	2.66		2.1B—1/15/83
LEFT-FIN-D	L-F-D	L — DOOR	14	2.67		2.1B—1/15/83
		L — WINDOW	13	2.67		2.1B—1/15/83
LEFT-FIN-H	L-F-H	L — DOOR	14	2.67		2.1B—1/15/83
		L — WINDOW	13	2.67		2.1B—1/15/83
LEVEL		LS — FUNCTION	17			2.1C—5/15/84
•LIBRARY-INPUT LOADS		L	1			2.1—5/15/80
LIFE-EXP	L-E	P — PLANT-COSTS	40			2.1B—1/15/83
LIFE-REF	L-R	P — REFERENCE-COSTS	40		V.94	2.0—2/15/79
LIGHTING-KW	L-KW	L — SPACE-CONDITIONS	7		III.44	2.0—2/15/79
LIGHTING-SCHEDULE	L-SCH	L — SPACE-CONDITIONS	7		III.44	2.0—2/15/79

•COMMAND or Keyword	Abbrev	Subprogram — Command	BDL Summ (2.1D)	Supp (2.1D)	Ref Man (2.1A)	Program — year Version — added
LIGHTING–TYPE	L–T	L — SPACE–CONDITIONS	7		III.44	2.0—2/15/79
LIGHTING–W/SQFT	L–W	L — SPACE–CONDITIONS	7		III.45	2.0—2/15/79
LIGHT–CTRL–PROB	L–C–P	L — SPACE–CONDITIONS	9	2.34,2.48		2.1B—1/15/83
LIGHT–CTRL–STEPS	L–C–S	L — SPACE–CONDITIONS	9	2.34,2.47		2.1B—1/15/83
LIGHT–CTRL–TYPE1	L–C–T1	L — SPACE–CONDITIONS	9	2.34,2.46		2.1B—1/15/83
LIGHT–CTRL–TYPE2	L–C–T2	L — SPACE–CONDITIONS	9	2.34,2.46		2.1B—1/15/83
LIGHT–HEAT–TO	L–H–T	L — SPACE–CONDITIONS	7			2.1B—1/15/83
LIGHT–RAD–FRAC	L–R–F	L — SPACE–CONDITIONS	7	2.70		2.1B—1/15/83
LIGHT–REF–POINT1	L–R–P1	L — SPACE–CONDITIONS	9	2.34,2.45		2.1B—1/15/83
LIGHT–REF–POINT2	L–R–P2	L — SPACE–CONDITIONS	9	2.34,2.45		2.1B—1/15/83
LIGHT–SET–POINT1	L–S–P1	L — SPACE–CONDITIONS	7	2.34,2.46		2.1B—1/15/83
LIGHT–SET–POINT2	L–S–P2	L — SPACE–CONDITIONS	7	2.34,2.46		2.1B—1/15/83
LIGHT–TO–OTHER	L–T–O	L — SPACE–CONDITIONS	7	2.69		2.1B—1/15/83
LIGHT–TO–RETURN	L–T–R	L — SPACE–CONDITIONS	7	2.69		2.1B—1/15/83
LIGHT–TO–SPACE	L–T–S	L — SPACE–CONDITIONS	7	2.69	III.46	2.0—2/15/79
LIKE		L — CONSTRUCTION			III.80	2.0—2/15/79
		L — DESIGN–DAY			III.26	2.0—2/15/79
		L — DOOR			III.110	2.0—2/15/79
		L — EXTERIOR–WALL or –ROOF			III.100	2.0—2/15/79
		L — GLASS–TYPE			III.87	2.0—2/15/79
		L — INTERIOR–WALL			III.113	2.0—2/15/79
		L — MATERIAL			III.73	2.0—2/15/79
		L — SPACE			III.94	2.0—2/15/79
		L — SPACE–CONDITIONS			III.43	2.0—2/15/79
		L — UNDERGROUND–WALL or –FLOOR			III.118	2.0—2/15/79
		L — WINDOW			III.107	2.0—2/15/79
LIMITS		LSPE — DIAGNOSTIC	1			2.0—2/15/79
•LOAD–ASSIGNMENT	L–A	P	39	4.2	V.52	2.0—2/15/79
LOAD–ASSIGNMENT	L–A	P — LOAD–MANAGEMENT	39		V.60	2.0—2/15/79
•LOAD–MANAGEMENT	L–M	P	39		V.59	2.0—2/15/79