Appendix B - Input Screen Forms

ASEAM3.0 User's Manual Appendix B - Input Screen Forms

B.1 How to Use the Input Forms

Input forms for Loads, Systems, Plant, and Life-Cycle Costing are presented in the following pages. After you have collected data about the building to be modeled, whether from plans, a building walk-through, or interviews with operating personnel, it is suggested that you enter data on these forms before entering the data using the input programs. (You will need to copy the forms which are used for each zone or each system many times. Each screen is shown here only once, even though you may fill out the screen for ten different zones or systems.)

Above each input form is a description of the data it contains, the file name for the screen display, and space for you to enter the building, zone or system which to which the data pertains. The screen display file is the one you must access if you want to alter the default values or limits on the values. Refer to Appendix C for instructions on how to change the screen input files.

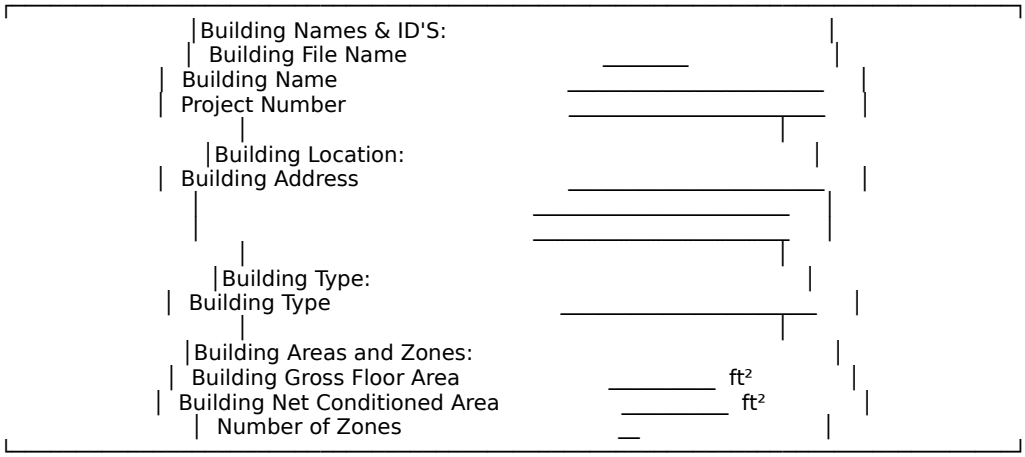
B.2 Loads Input Screens

All Loads Input screen data files have the extension .LIS. The file name is given above each screen.

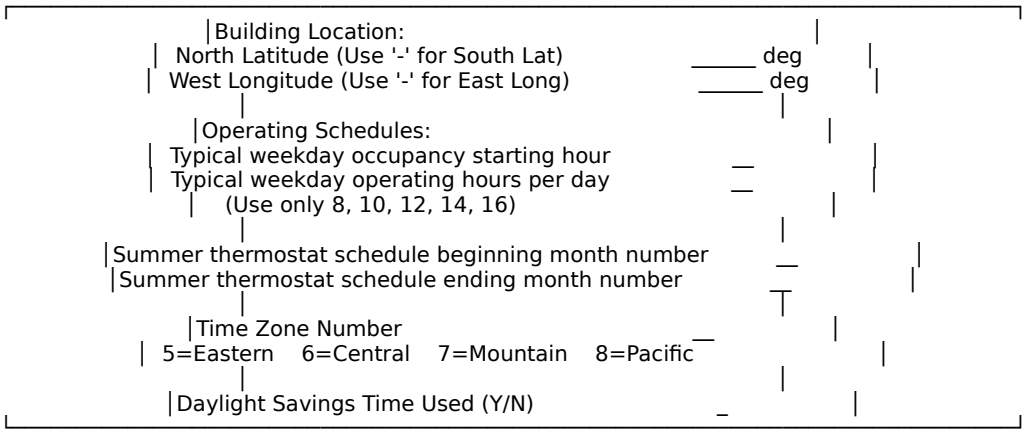
The Building/Project Data screens appear only once for the building. The External Shading and Monthly Diversity Factors screens, although they appear with the zone screens, may be defined only once per building. Thus, if you specify one set of monthly diversity factor in zone 1 and another in zone 5, the latest entered values will be used for the entire building (in this case, zone 5). All other screens appear once per zone. Not all screens may be applicable to your building. For example, if you do not specify a daylighting analysis, the daylighting screens will never appear.

These input forms are provided for your convenience in collecting data. Refer to Chapter 5 for discussion of the Loads input questions.

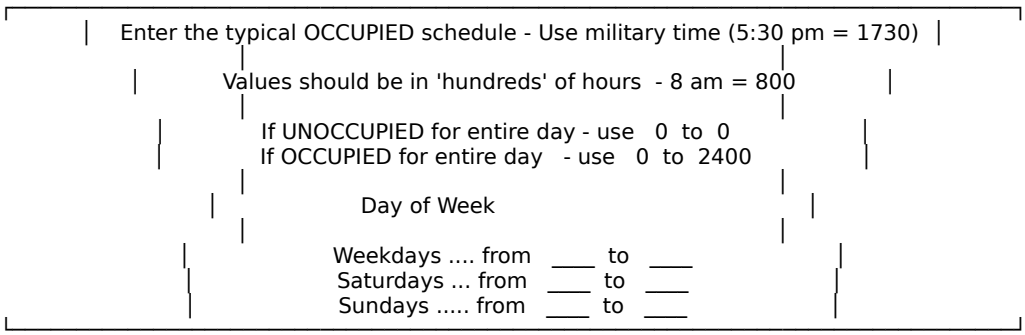
B.2.1 Project/Building (LIPROJDT) Building:_____



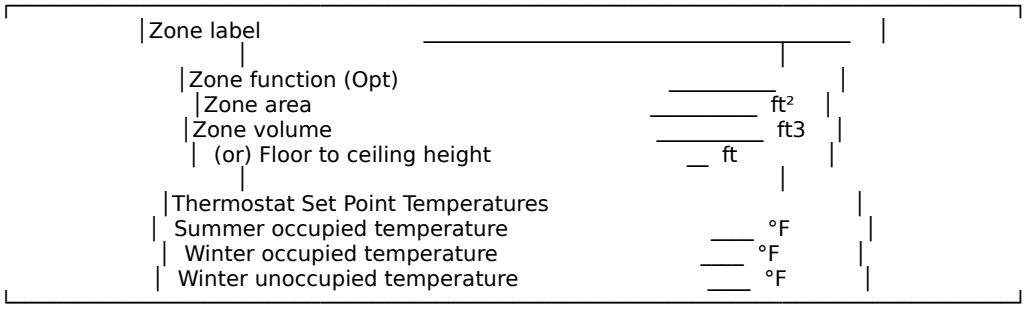
B.2.2 Project/Building Screen 2 (LIPRJ2DT) Building:_____



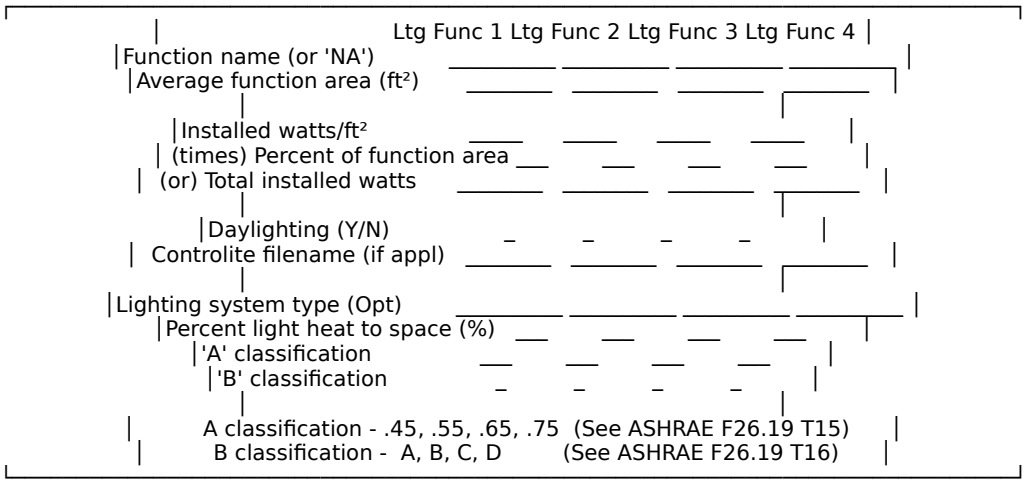
B.2.3 Occupancy Schedules (LIOCCSDT) Building:_____



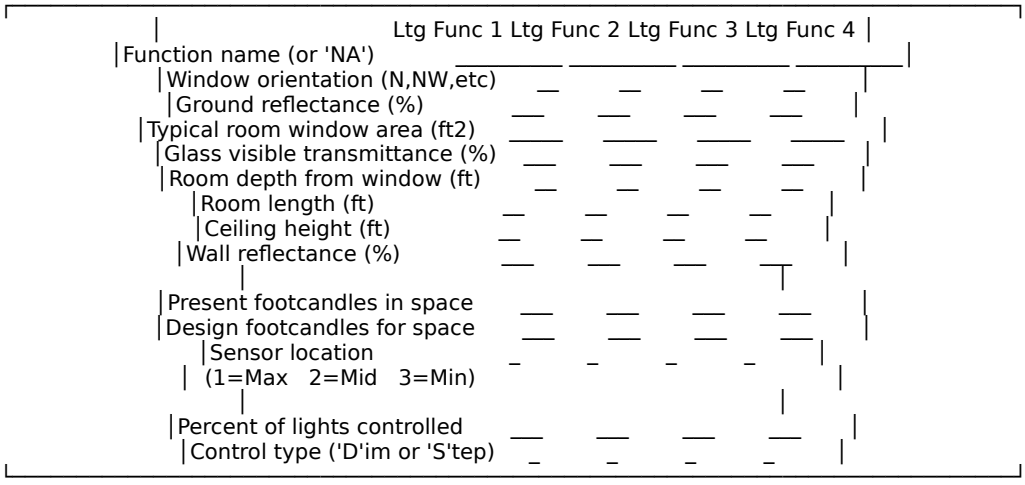
B.2.4 Zones (LIZONEDT) Building:_____ Zone # __



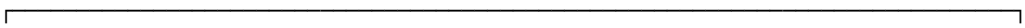
B.2.5 Lighting (LILITEDT) Building:_____ Zone # __

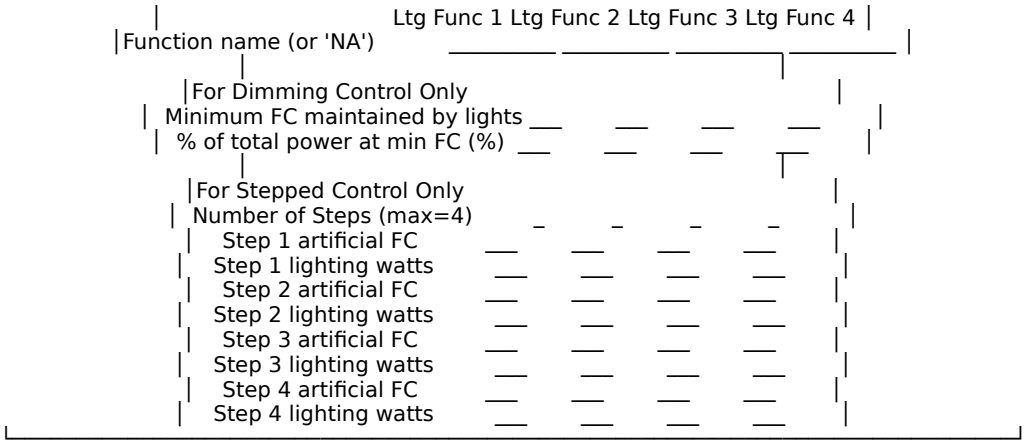


B.2.6 Daylighting (LIDAYLDT) Building:_____ Zone # __

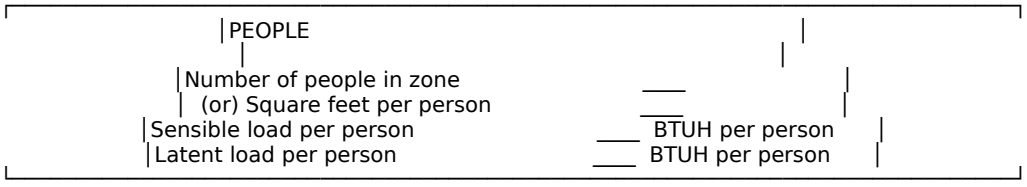


B.2.7 Daylighting Control (LIDAYCDT) Building:_____ Zone # __

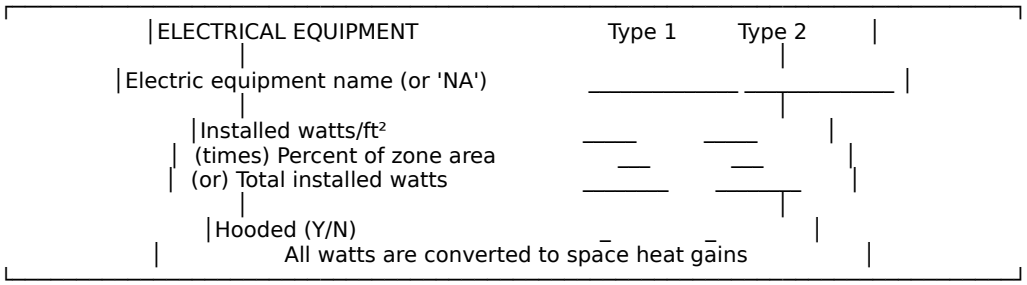




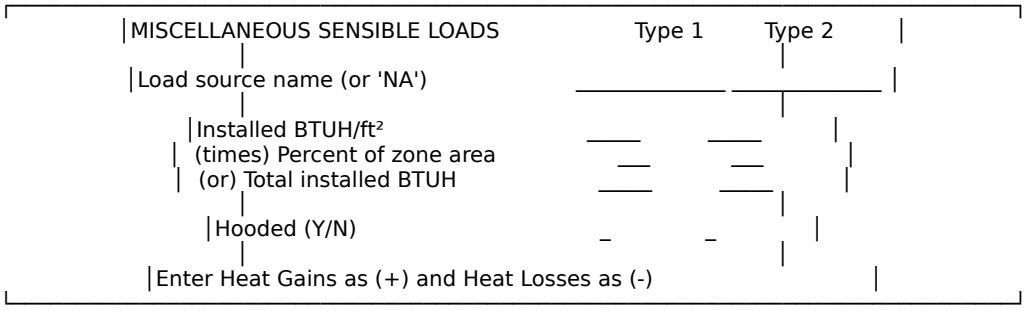
B.2.8 People (LIPEOPDT) Building:_____ Zone # __



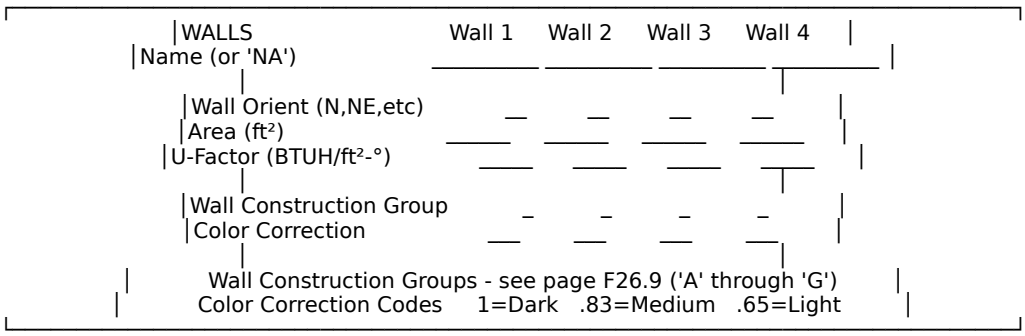
B.2.9 Electrical Equipment (LIELECDT) Building:_____ Zone # __



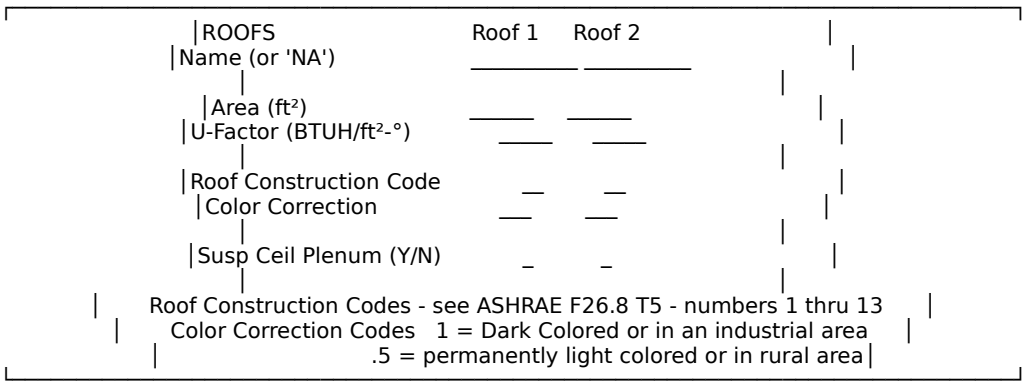
B.2.10 Misc Sensible Loads (LIMSENDT) Building:_____ Zone # __



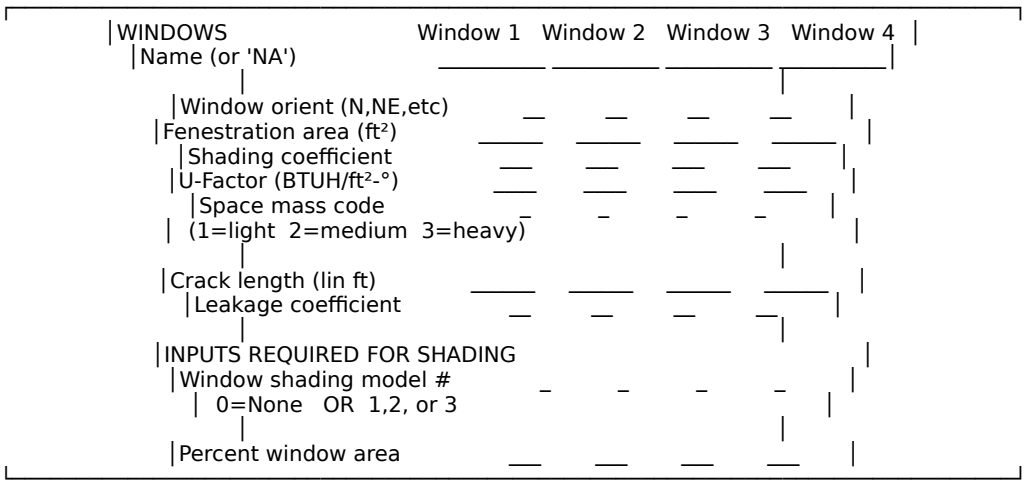
B.2.11 Walls (LIWALLDT) Building:_____ Zone # __



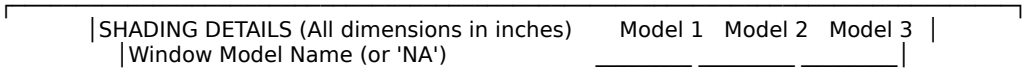
B.2.12 Roofs (LIROOFDT) Building:_____ Zone # __

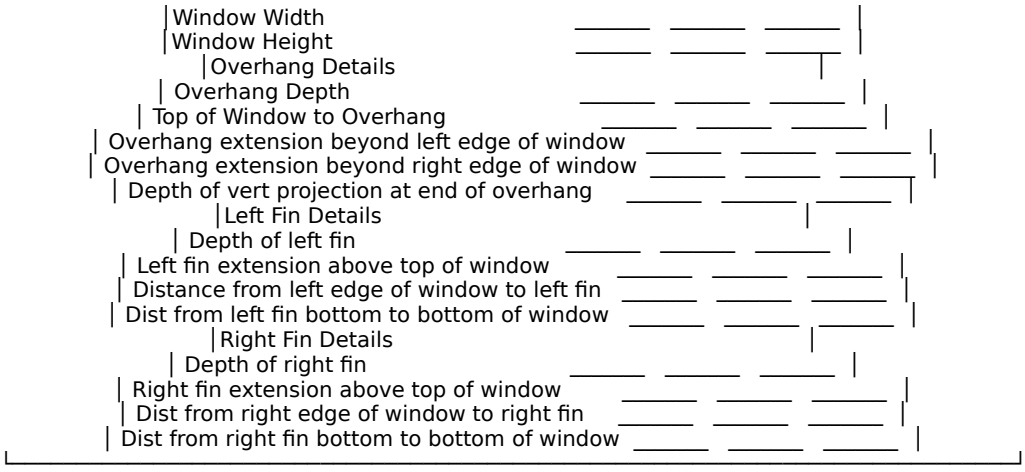


B.2.13 Windows (LIWNDODT) Building:_____ Zone # __

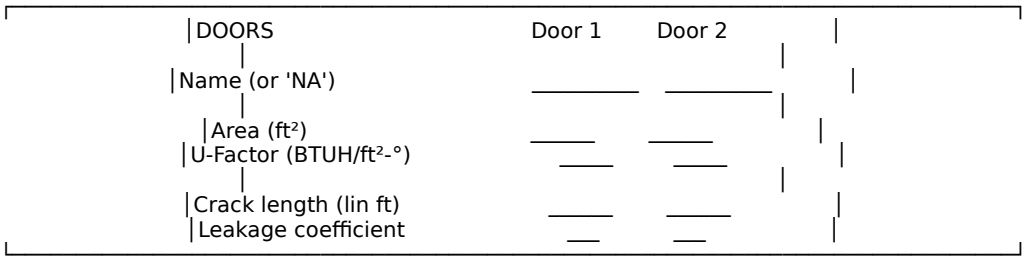


B.2.14 External Shading (LISHADDT) Building:_____ ALL ZONES

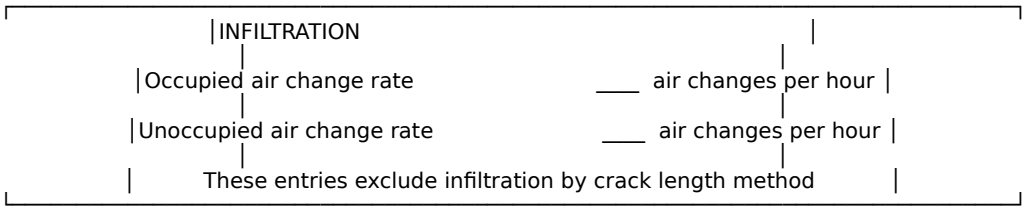




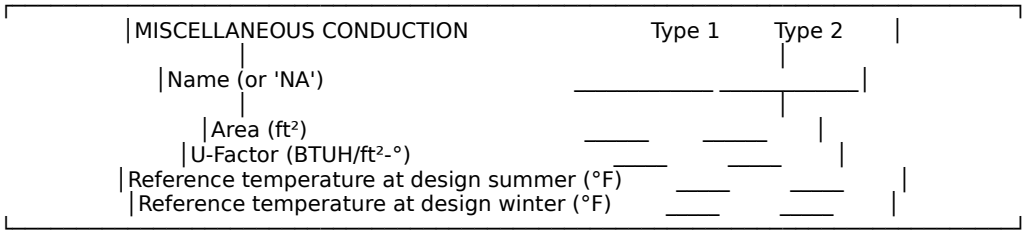
B.2.15 Doors (LIDOORDT) Building:_____ Zone # __



B.2.16 Infiltration (LIINFLDT) Building:_____ Zone # __



B.2.17 Misc Conduction (LIMCONDT) Building:_____ Zone # __



B.2.18 Diversity Factors (LIDIVRDT) Building:_____ Zone # __

	OCCUPIED PERIOD	UNOCCUPIED PERIOD	MONTHLY DIV FC TABLE # (1-4)
People:			
Avg % of full occupancy	____	____	____
Lights:			
Office Avg % of installed capacity	____	____	____
NA Avg % of installed capacity	____	____	____
NA Avg % of installed capacity	____	____	____
NA Avg % of installed capacity	____	____	____
Electric Equipment:			
Misc Avg % of installed capacity	____	____	____
NA Avg % of installed capacity	____	____	____
Miscellaneous Sensible Loads:			
NA Avg % of installed capacity	____	____	____
NA Avg % of installed capacity	____	____	____

B.2.19 Monthly Diversity Factors (LIMONDDT) Building:_____ ALL ZONES

Enter Monthly Diversity Factors (0 - 100 %) for each month/schedule

Month	Mon Sch 1	Mon Sch 2	Mon Sch 3	Mon Sch 4
January	___	___	___	___
February	___	___	___	___
March	___	___	___	___
April	___	___	___	___
May	___	___	___	___
June	___	___	___	___
July	___	___	___	___
August	___	___	___	___
September	___	___	___	___
October	___	___	___	___
November	___	___	___	___
December	___	___	___	___

B.3 Systems Input Screens

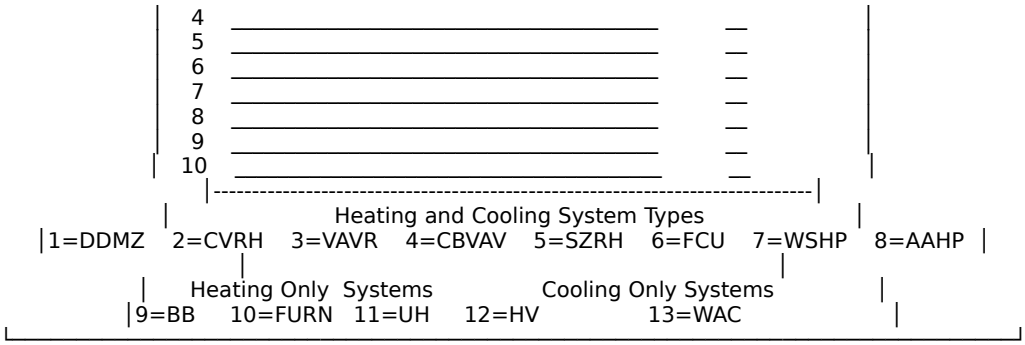
All Systems Input screen data files have the extension .SIS. The file name is given above each screen.

The System Type and Zone Assignment screens appear only once for the building. All other screens appear once for each system. Not all screens may be applicable to your building. For example, if you do not specify a DX Cooling, this screen will never appear. These input forms are provided for your convenience in collecting data. Refer to Chapter 6 for a discussion of each of the systems input questions.

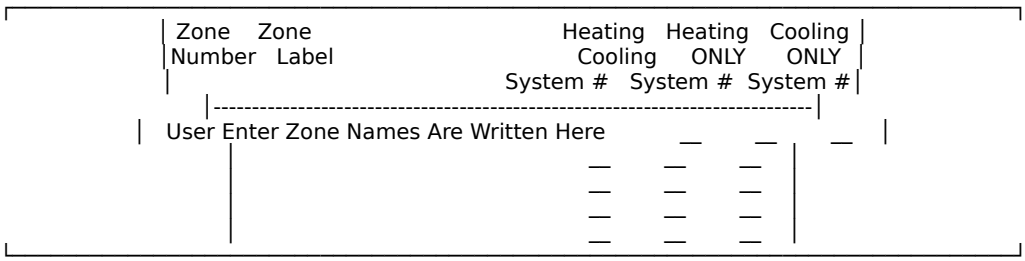
B.3.1 Systems Definitions (SISYSDAT) Building:_____

Total number of systems __

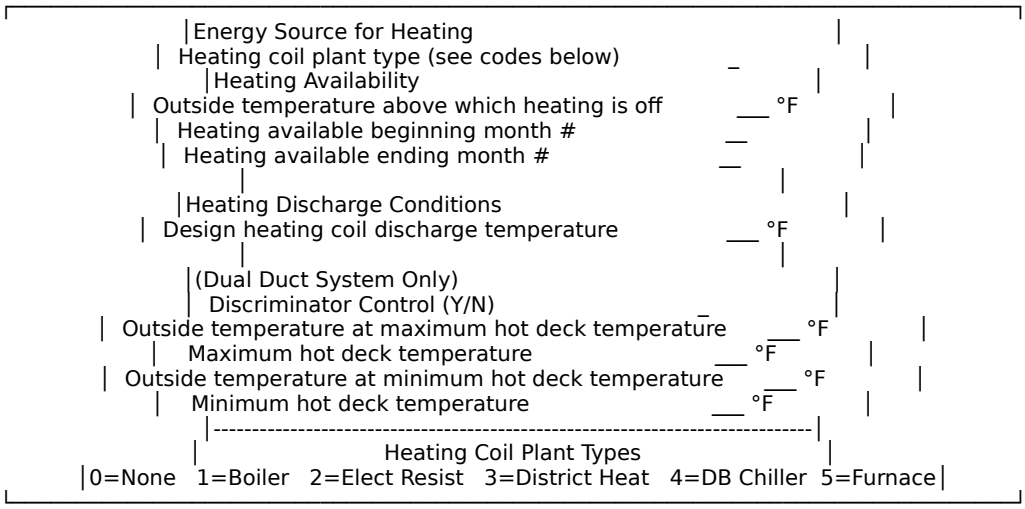
System #	System Label	System Type (Use Codes Below)
1	_____	__
2	_____	__
3	_____	__



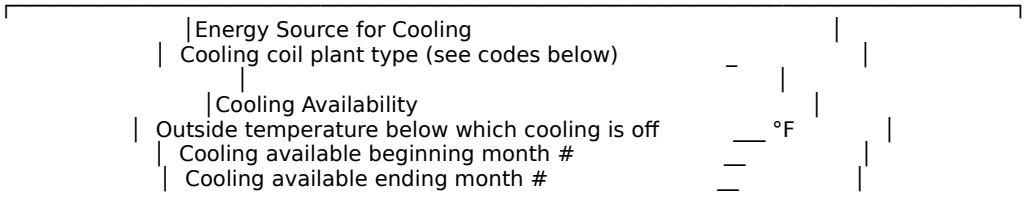
B.3.2 System-Zone Assignment (SIZONDAT) Building:_____

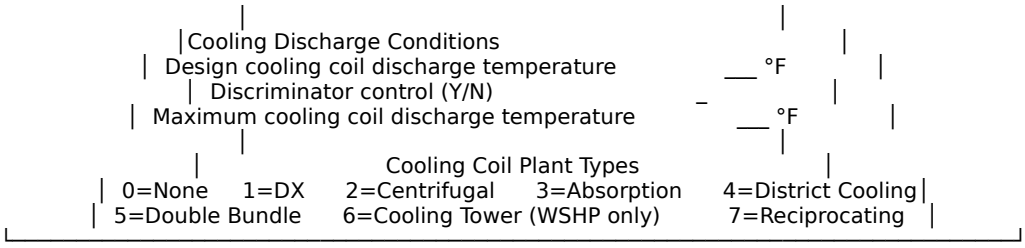


B.3.3 Heating (SIHTGDAT) Building:_____ System #__

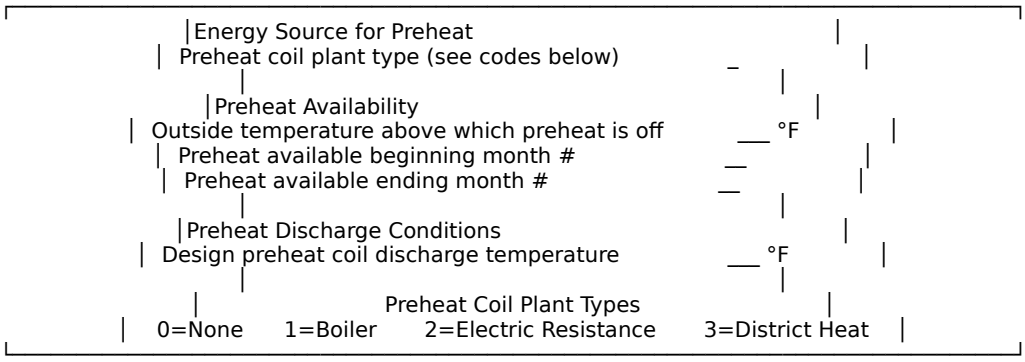


B.3.4 Cooling (SICLGDAT) Building:_____ System #__

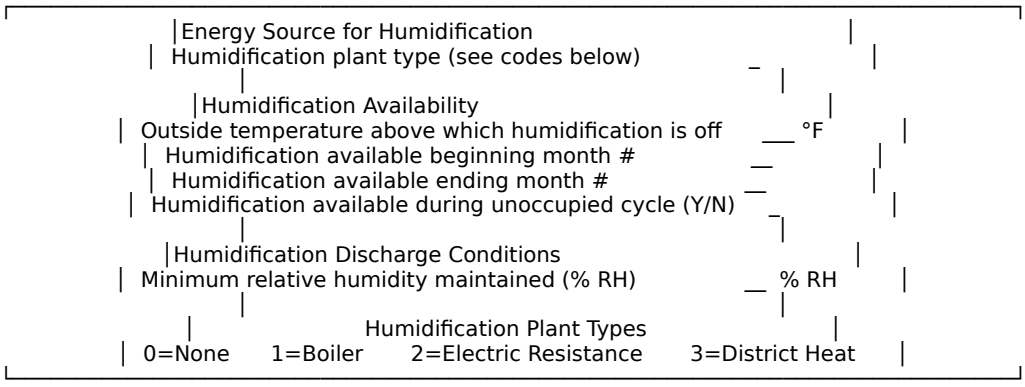




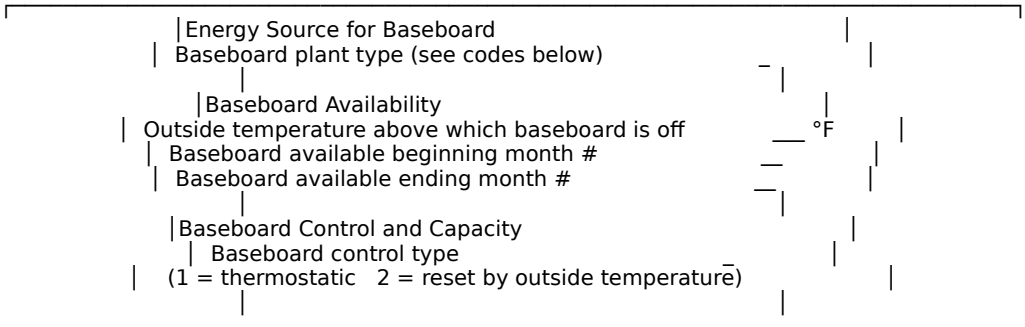
B.3.5 Preheat (SIPRHDAT) Building:_____ System #__

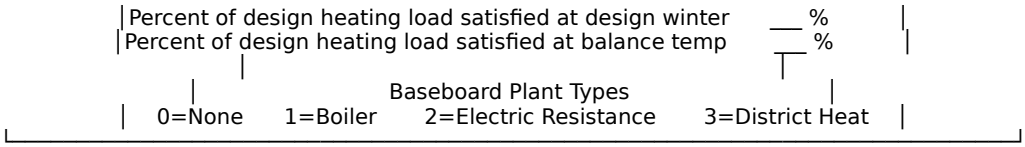


B.3.6 Humidification (SIHUMDAT) Building:_____ System #__

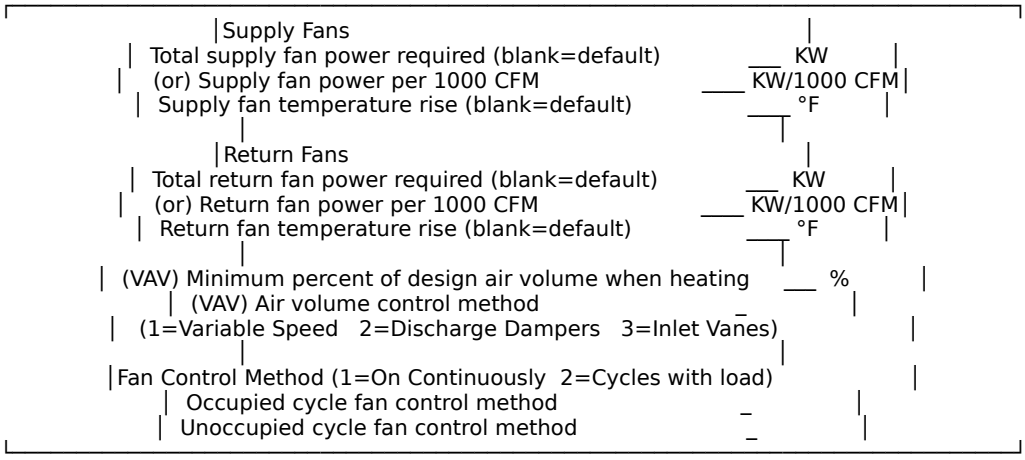


B.3.7 Baseboard (SIBBDAT) Building:_____ System #__

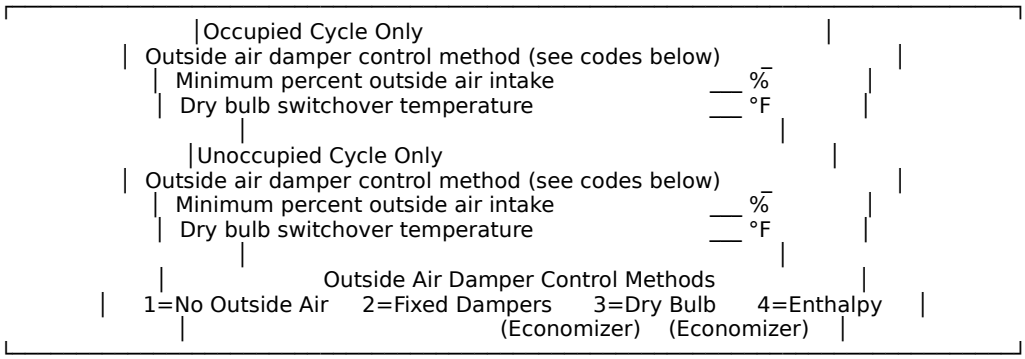




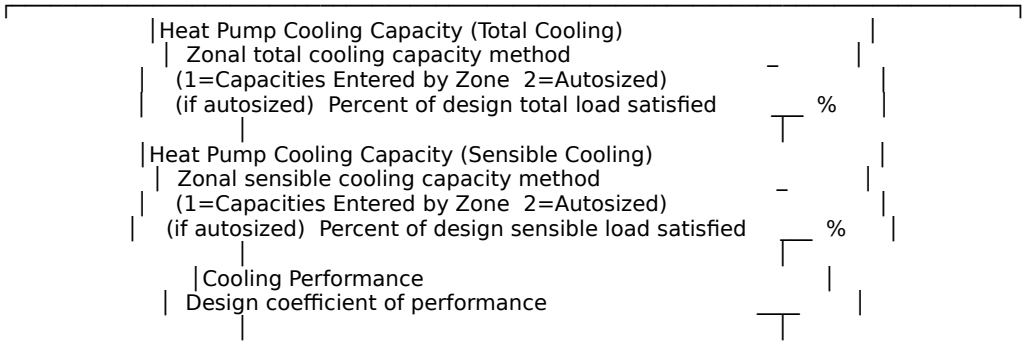
B.3.8 Fans (SIFANDAT) Building:_____ System #__

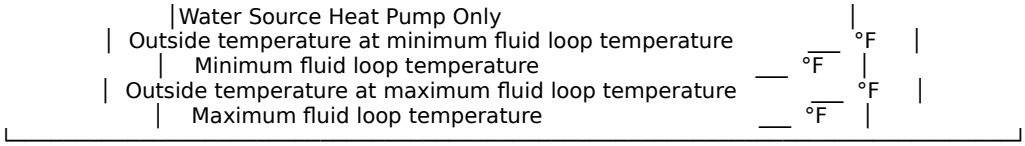


B.3.9 Outside Air Parameters (SIOACDAT) Building:_____ System #__

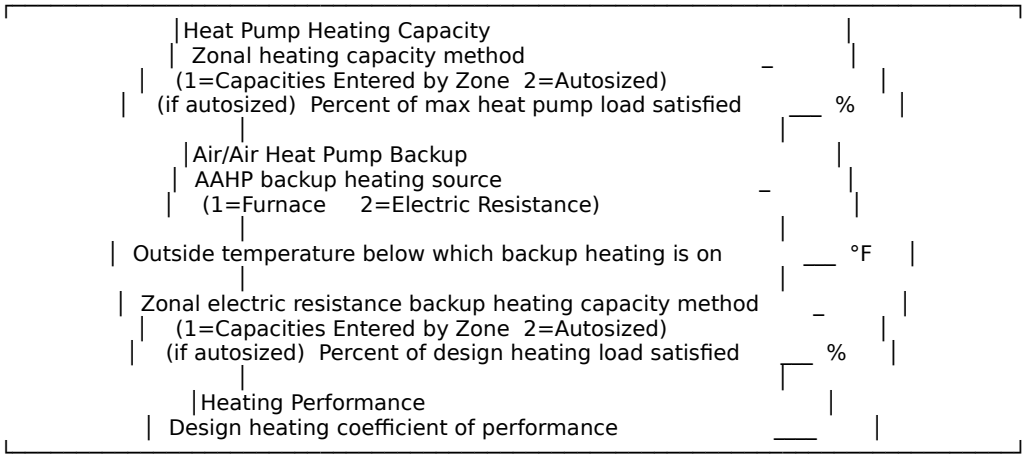


B.3.10 Heat Pump Cooling (SIHPCDAT) Building:_____ System #__

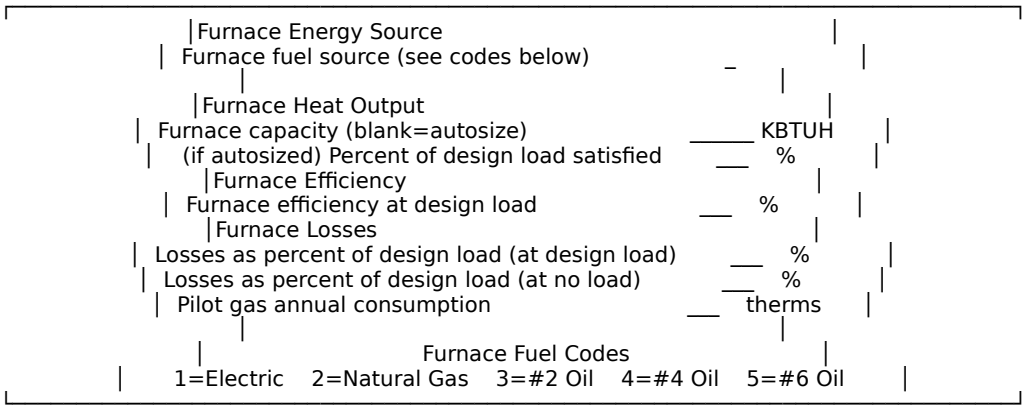




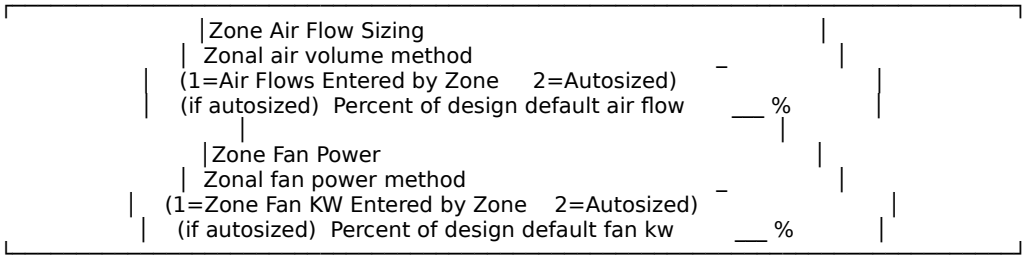
B.3.11 Heat Pump Heating (SIHPHDAT) Building:_____ System #__



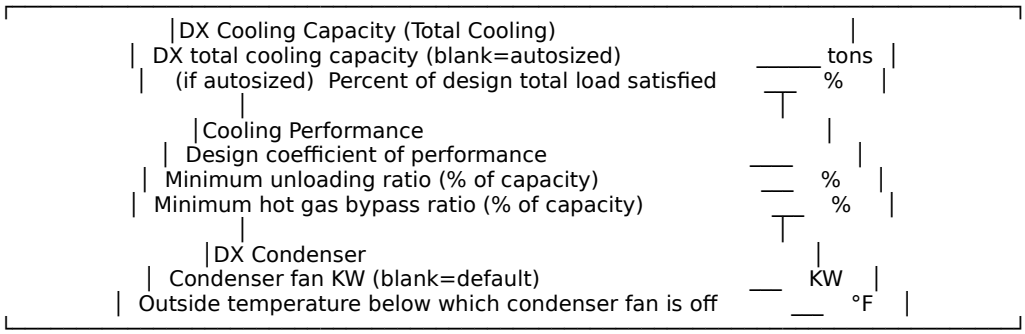
B.3.12 Furnace (SIFURDAT) Building:_____ System #__



B.3.13 Zone Air Parameters (SIAIRDAT) Building:_____ System #__



B.3.14 Direct Expansion Cooling (SIDXDAT) Building:_____ System #__

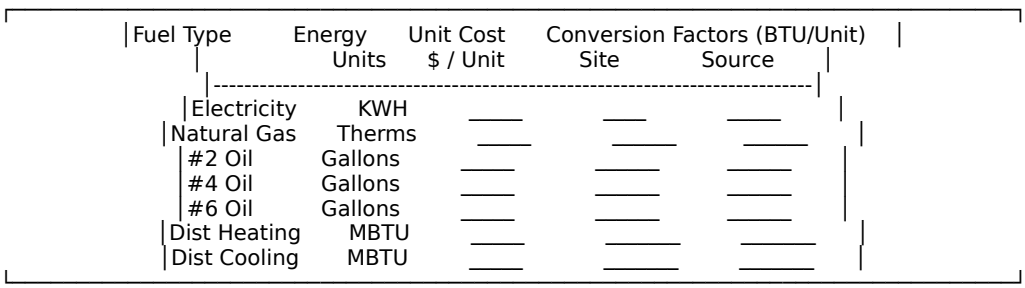


B.4 Plant Input Screens

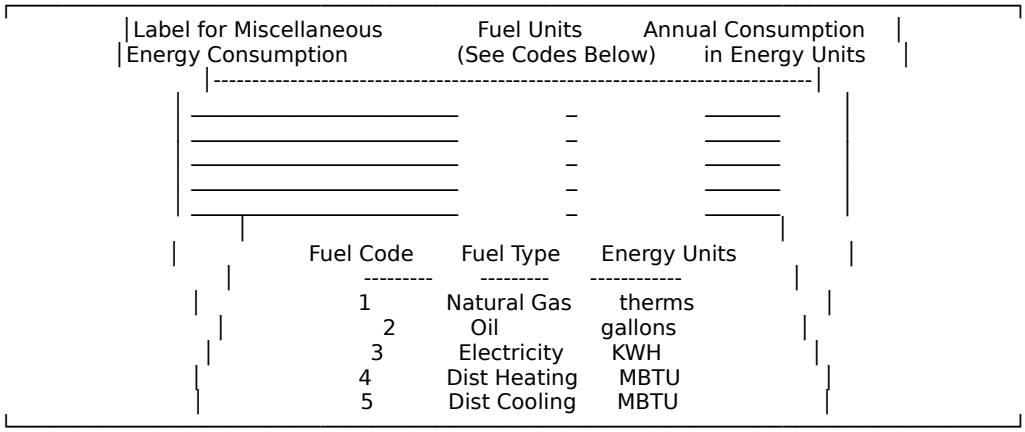
All Plant Input screen data files have the extension .PIS. The file name is given above each screen.

These input forms are provided for your convenience in collecting data. Refer to Chapter 7 for a discussion of each of the plant input questions.

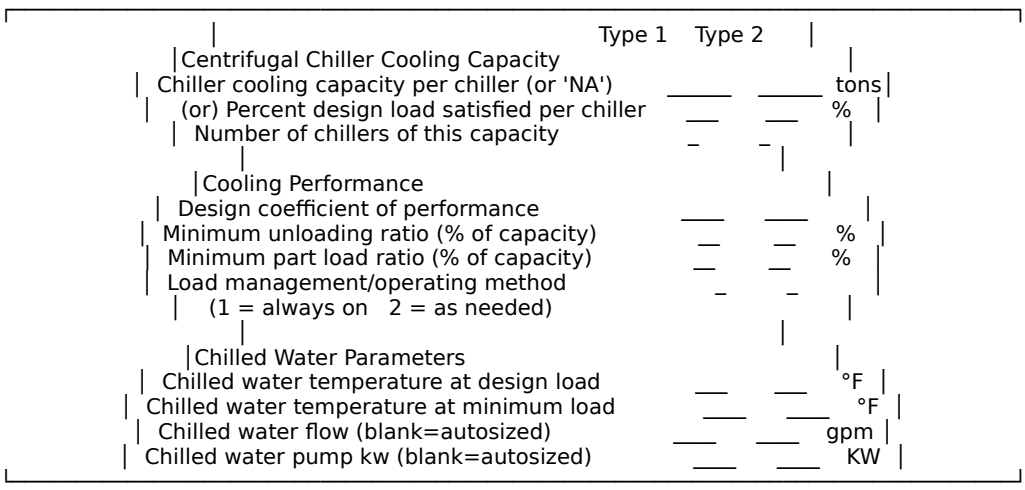
B.4.1 Energy Costs/Conversions (PIENEDAT) Building:_____



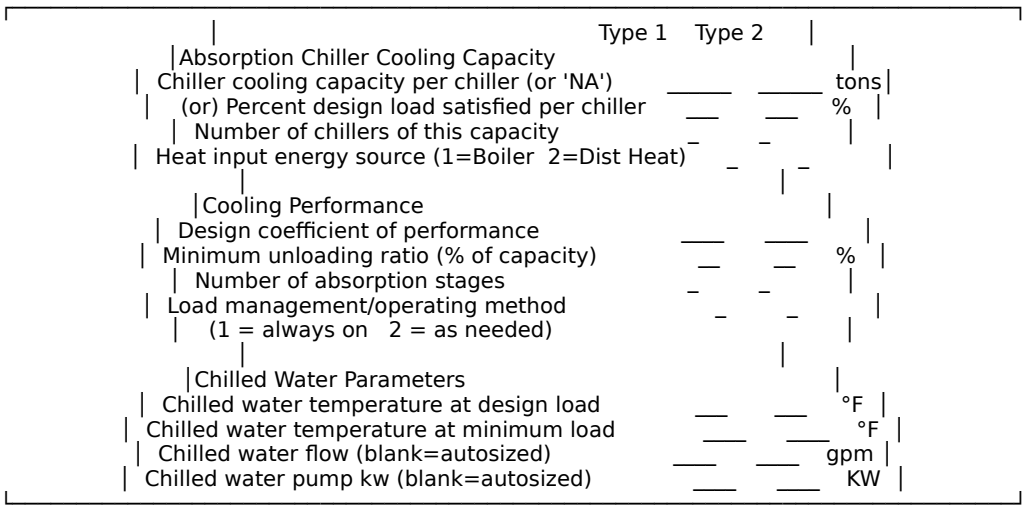
B.4.2 Miscellaneous Energy Consumption (PIMECDAT) Building:_____



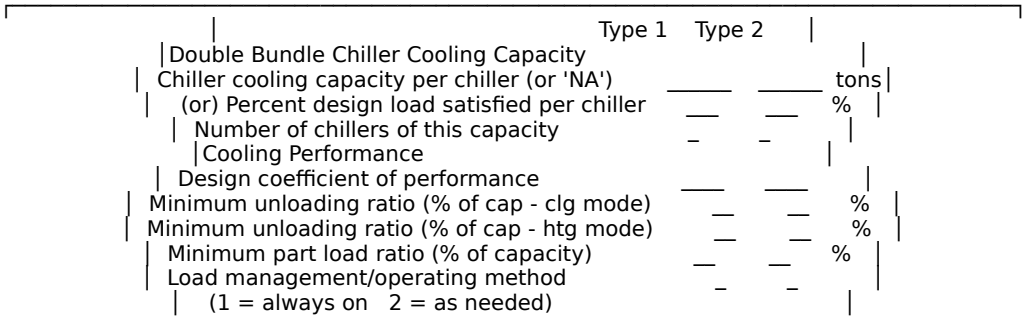
B.4.3 Centrifugal Chiller (PICENDAT) Building:_____



B.4.4 Absorption Chiller (PIABCDAT) Building:_____



B.4.5 Double Bundle Chiller (PIDBCDAT) Building:_____



```
                  Chilled Water Parameters
    Chilled water temperature at design load          ____   ____  °F
   Chilled water temperature at minimum load          ____   ____  °F
    Chilled water flow (blank=autosized)             ____   ____  gpm
   Chilled water pump kw (blank=autosized)            ___    ___   KW
                  Heat Recovery Parameters
    Design heat recovery temperature                  ___    ___   °F
    Heat recovery backup (1=Boiler   2=Dist Htg)       _      _
```

B.4.6 Reciprocating Chiller (PIRECDAT) Building:_____

```
                                                  Type 1   Type 2
            Reciprocating Chiller Cooling Capacity
    Chiller cooling capacity per chiller (or 'NA')    ____     ____   tons
      (or) Percent design load satisfied per chiller   ___      ___    %
     Number of chillers of this capacity               _        _
                  Cooling Performance
    Design coefficient of performance                 ____     ____
   Minimum unloading ratio (% of capacity)            ___      ___    %
    Minimum part load ratio (% of capacity)           ___      ___    %
    Load management/operating method                   _        _
      (1 = always on   2 = as needed)
                  Chilled Water Parameters
    Chilled water temperature at design load          ____     ____   °F
   Chilled water temperature at minimum load          ____     ____   °F
    Chilled water flow (blank=autosized)             ____     ____   gpm
   Chilled water pump KW (blank=autosized)            ___      ___    KW
```

B.4.7 Cooling Tower (PITOWDAT) Building:_____

```
            Cooling Tower Heat Rejection Capacity
     Total heat rejection                            _____  tons
      (or) Percent of design heat rejection load satisfied  ___  %
                  Tower Performance
    Number of tower cells (blank=autosized)            _
    Fan KW per cell (blank=autosized)                 ___   KW
     Number of fan speeds (1 or 2)                     _
     Approach temperature                             ___   °F
            Condenser Water Parameters
    Condenser water temperature at design load         ___   °F
   Condenser water temperature at minimum load         ___   °F
    Condenser water flow rate (blank=autosized)       ___   gpm
   Condenser water pump KW (blank=autosized)           ___   KW
```

B.4.8 Domestic Hot Water (PIDHWDAT) Building:_____

```
            Domestic Hot Water Energy Source
     Domestic Hot Water Energy Source                  _
    (0=None  1=Electric  2=Nat Gas  3=Oil  4=Boiler  5=District)
        (if oil)  Oil Type (2 or 4 or 6)               _
      (if gas)  Annual pilot consumption              ___   therms
                  DHW Capacity and Usage
    Domestic Hot Water Heating Capacity (blank=autosized)   ____   KBTUH
```

```
    (if autosized) Peak hourly DHW usage                ____  gal/hr
  Average hourly DHW usage - occupied cycle             ____  gal/hr
  Average hourly DHW usage - unoccupied cycle           ____  gal/hr
 DHW Temperatures
  Domestic hot water supply temperature                 ___   °F
  DHW inlet temperature - design summer                 __    °F
  DHW inlet temperature - design winter                 __    °F
 Circulating Pumps
  Circulating pump KW - occupied cycle                  ___   KW
  Circulating pump KW - unoccupied cycle                ___   KW
 DHW Efficiency and Losses
  Design DHW heating efficiency                         ___   %
  DHW losses - occupied cycle                           _____ BTUH
  DHW losses - unoccupied cycle                         _____ BTUH
```

B.4.9 Boiler (PIBLRDAT) Building:_____

```
 Boiler Energy
  Boiler Energy Source                                  _     _
    (0=None  1=Electric  2=Nat Gas  3=Oil)
    (if oil)  Oil type (2 or 4 or 6)                    _     _
    (if gas)  Annual pilot consumption                  ____  ____  therms
 Boiler Heating Capacity
  Boiler heating capacity (per boiler)                  _____ _____ KBTUH
    (or) % max heating load satisfied (per boiler)      ___   ___   %
  Number of boilers with this capacity                  _     _
  Load management/operation                             _     _
    (1 = always on   2 = as needed)
 Boiler Performance
  Boiler efficiency method (1=user entered  2=calc)     _     _
  Design boiler efficiency                              ____  ____  %
  (if calc) Combustion air temperature                  ___   ___   °F
  (if calc) Stack temperature                           ___   ___   °F
  (if calc) Air-Fuel ratio                              ____  ____  Lb/Lb
  Minimum part load operating ratio (% of capacity)     __    __    %
  Boiler pump KW (blank=autosized)                      ___   ___   KW
  Boiler losses - percent of capacity                   __    __    %
  Boiler losses - percent of load                       __    __    %
```

B.5 Abbreviated Input Forms

The following pages contain an abbreviated listing of the input questions for the loads, systems, and plant segments. The input forms are also found on the ASEAM3.0 directory under the following filenames.

LDINPUT.FRM	-	Loads Input
SYSINPUT.FRM	-	Systems Input
PLTINPUT.FRM	-	Plant Input

ASEAM2 LOADS INPUT FORMS (ABBREVIATED)

Bldg/Project Building File Name _____
Bldg/Project Building Name _____
Bldg/Project Project Number _____
Bldg/Project Building Address _____
Bldg/Project Building Type _____
Bldg/Project Building Gross Floor Area _____ ft²
Bldg/Project Building Net Conditioned Area _____ ft²
Bldg/Project Number of Zones __

Bldg/Project North Latitude (Use '-' for South Lat) _____ deg
Bldg/Project West Longitude (Use '-' for East Long) _____ deg
Bldg/Project Typical weekday occupancy starting hour __
Bldg/Project Typical weekday operating hours per day __
Bldg/Project Summer thermostat schedule beginning month number __
Bldg/Project Summer thermostat schedule ending month number __
Bldg/Project Time Zone Number __
Bldg/Project Daylight Savings Time Used (Y/N) _

Bldg/Project Operating Schedules Weekdays .... from ____ to ____
Bldg/Project Operating Schedules Saturdays ... from ____ to ____
Bldg/Project Operating Schedules Sundays ..... from ____ to ____

(The following two screens apply to the entire building)

Shading Window Model Name (or 'NA') _____ _____ _____
Shading Window Width _____ _____ _____
Shading Window Height _____ _____ _____
Shading Overhang Depth _____ _____ _____
Shading Top of Window to Overhang _____ _____ _____
Shading Overhang extension beyond left edge of window _____ _____ _____
Shading Overhang extension beyond right edge of window _____ _____ _____
Shading Depth of vert projection at end of overhang _____ _____ _____
Shading Depth of left fin _____ _____ _____
Shading Left fin extension above top of window _____ _____ _____
Shading Distance from left edge of window to left fin _____ _____ _____
Shading Dist from left fin bottom to bottom of window _____ _____ _____
Shading Depth of right fin _____ _____ _____
Shading Right fin extension above top of window _____ _____ _____
Shading Dist from right edge of window to right fin _____ _____ _____
Shading Dist from right fin bottom to bottom of window _____ _____ _____

Month Sch	Month	Mon Sch 1	Mon Sch 2	Mon Sch 3	Mon Sch 4
Month Sch	January	___	___	___	___
Month Sch	February	___	___	___	___
Month Sch	March	___	___	___	___
Month Sch	April	___	___	___	___
Month Sch	May	___	___	___	___
Month Sch	June	___	___	___	___
Month Sch	July	___	___	___	___
Month Sch	August	___	___	___	___

Month Sch	September	___	___	___	___
Month Sch	October	___	___	___	___
Month Sch	November	___	___	___	___
Month Sch	December	___	___	___	___

ASEAM2 LOADS INPUT FORMS (ABBREVIATED) Zone # ____

Zone	Zone label	_____
Zone	Zone function (Opt)	_____
Zone	Zone area	_____ ft²
Zone	Zone volume	_____ ft3
Zone	(or) Floor to ceiling height	__ ft
Zone	Summer occupied temperature setpoint	____ °F
Zone	Winter occupied temperature setpoint	____ °F
Zone	Winter unoccupied temperature setpoint	____ °F

Lighting	Function name (or 'NA')	_____	_____	_____	_____
Lighting	Average function area (ft²)	_____	_____	_____	_____
Lighting	Installed watts/ft²	_____	_____	_____	_____
Lighting	(times) Percent of function area	___	___	___	___
Lighting	(or) Total installed watts	_____	_____	_____	_____
Lighting	Daylighting (Y/N)	_	_	_	_
Lighting	Controlite filename (if appl)	_____	_____	_____	_____
Lighting	Lighting system type (Opt)	_____	_____	_____	_____
Lighting	Percent light heat to space (%)	___	___	___	___
Lighting	'A' classification	___	___	___	___
Lighting	'B' classification	_	_	_	_
Lighting	Diversity Factor Occupied	___	___	___	___
Lighting	Diversity Factor Unoccupied	___	___	___	___
Lighting	Monthly Diversity Factor Table #	_	_	_	_

Daylighting	Function name (or 'NA')	_____	_____	_____	_____
Daylighting	Window orientation (N,NW,etc)	__	__	__	__
Daylighting	Ground reflectance (%)	___	___	___	___
Daylighting	Typical room window area (ft2)	_____	_____	_____	_____
Daylighting	Glass visible transmittance (%)	___	___	___	___
Daylighting	Room depth from window (ft)	__	__	__	__
Daylighting	Room length (ft)	__	__	__	__
Daylighting	Ceiling height (ft)	__	__	__	__
Daylighting	Wall reflectance (%)	___	___	___	___
Daylighting	Present footcandles in space	___	___	___	___
Daylighting	Design footcandles for space	___	___	___	___
Daylighting	Sensor location	_	_	_	_
Daylighting	Percent of lights controlled	___	___	___	___
Daylighting	Control type ('D'im or 'S'tep)	_	_	_	_

Dayl-Controls	Function name (or 'NA')	_____	_____	_____	_____
Dayl-Controls	For Dimming Control Only				
Dayl-Controls	Minimum FC maintained by lights	___	___	___	___
Dayl-Controls	% of total power at min FC (%)	___	___	___	___
Dayl-Controls	For Stepped Control Only				
Dayl-Controls	Number of Steps (max=4)	_	_	_	_
Dayl-Controls	Step 1 artificial FC	___	___	___	___
Dayl-Controls	Step 1 lighting watts	___	___	___	___
Dayl-Controls	Step 2 artificial FC	___	___	___	___
Dayl-Controls	Step 2 lighting watts	___	___	___	___
Dayl-Controls	Step 3 artificial FC	___	___	___	___
Dayl-Controls	Step 3 lighting watts	___	___	___	___
Dayl-Controls	Step 4 artificial FC	___	___	___	___

Dayl-Controls Step 4 lighting watts ___ ___ ___ ___

People Number of people in zone ____ (or) Square feet per person ____
People BTUH load per person Sensible ____ Latent ____
People Diversity Factor Occupied ___ Unoccupied ____ Table # ____

ASEAM2 LOADS INPUT FORMS (ABBREVIATED) Zone # ____

Misc Elect	Electric equipment name (or 'NA')	_____	_____
Misc Elect	Installed watts/ft²	_____	_____
Misc Elect	(times) Percent of zone area	___	___
Misc Elect	(or) Total installed watts	_____	_____
Misc Elect	Hooded (Y/N)	_	_
Misc Elect	Diversity Factor Occupied	___	___
Misc Elect	Diversity Factor Unoccupied	___	___
Misc Elect	Monthly Diversity Factor Table Number	_	_

Misc Sens	Load source name (or 'NA')	_____	_____
Misc Sens	Installed BTUH/ft²	_____	_____
Misc Sens	(times) Percent of zone area	___	___
Misc Sens	(or) Total installed BTUH	_____	_____
Misc Sens	Hooded (Y/N)	_	_
Misc Sens	Diversity Factor Occupied	___	___
Misc Sens	Diversity Factor Unoccupied	___	___
Misc Sens	Monthly Diversity Factor Table Number	_	_

Wall	Name (or 'NA')	_____	_____	_____	_____
Wall	Wall Orient (N,NE,etc)	__	__	__	__
Wall	Area (ft²)	_____	_____	_____	_____
Wall	U-Factor (BTUH/ft²-°)	_____	_____	_____	_____
Wall	Wall Construction Group	_	_	_	_
Wall	Color Correction	___	___	___	___

Roof	Name (or 'NA')	_____	_____
Roof	Area (ft²)	_____	_____
Roof	U-Factor (BTUH/ft²-°)	_____	_____
Roof	Roof Construction Code	__	__
Roof	Color Correction	___	___
Roof	Susp Ceil Plenum (Y/N)	_	_

Window	Name (or 'NA')	_____	_____	_____	_____
Window	Window orient (N,NE,etc)	__	__	__	__
Window	Fenestration area (ft²)	_____	_____	_____	_____
Window	Shading coefficient	___	___	___	___
Window	U-Factor (BTUH/ft²-°)	____	____	____	____
Window	Space mass code	_	_	_	_
Window	Crack length (lin ft)	_____	_____	_____	_____
Window	Leakage coefficient	__	__	__	__
Window	Window shading model #	_	_	_	_
Window	Percent window area	___	___	___	___

Door	Name (or 'NA')	_____	_____
Door	Area (ft²)	_____	_____
Door	U-Factor (BTUH/ft²-°)	_____	_____
Door	Crack length (lin ft)	_____	_____
Door	Leakage coefficient	___	___

Infiltration	Occupied air change rate	____ air changes per hour
Infiltration	Unoccupied air change rate	____ air changes per hour

Misc Conduct Name (or 'NA') _____ _____
Misc Conduct Area (ft²) _____ _____
Misc Conduct U-Factor (BTUH/ft²-°) _____ _____
Misc Conduct Reference temperature at design summer (°F) _____ _____
Misc Conduct Reference temperature at design winter (°F) _____ _____

ASEAM2 SYSTEMS INPUT FORM (ABBREVIATED)

Total number of systems __

System #	System Label	System Type
1	_____	__
2	_____	__
3	_____	__
4	_____	__
5	_____	__
6	_____	__
7	_____	__
8	_____	__
9	_____	__
10	_____	__

System Types

1=DDMZ 2=CVRH 3=VAVR 4=CBVAV 5=SZRH 6=FCU 7=WSHP 8=AAHP
9=BB 10=FURN 11=UH 12=HV 13=WAC

Zone Number	Zone Label	Heating Cooling System #	Heating ONLY System #	Cooling ONLY System #
			__	__ __
			__	__ __
		__	__	__
		__	__	__
		__	__	__
		__	__	__
		__	__	__

NOTE - THE ZONE NUMBERS AND LABELS (AS DEFINED IN LOADS INPUT) WILL BE PRINTED HERE

ASEAM2 SYSTEMS INPUT FORM (ABBREVIATED) System # ____

Heating coil plant type (Use Codes Below) _
0=None 1=Boiler 2=Elect Resist 3=Dist Heat 4=DB Chiller 5=Furn
Outside temperature above which heating is off ___ °F
Heating available beginning month # __
Heating available ending month # __
Design heating coil discharge temperature ___ °F
Discriminator Control (Y/N) (DDMZ ONLY) _
Outside temperature at maximum hot deck temperature (DDMZ ONLY) ___ °F
Maximum hot deck temperature (DDMZ ONLY) ___ °F
Outside temperature at minimum hot deck temperature (DDMZ ONLY) ___ °F
Minimum hot deck temperature (DDMZ ONLY) ___ °F

Cooling coil plant type (see codes below) _
0=None 1=DX 2=Centrifugal 3=Absorption 4=District Cooling
5=Double Bundle 6=Cooling Tower (WSHP only) 7=Reciprocating
Outside temperature below which cooling is off ___ °F
Cooling available beginning month # __
Cooling available ending month # __
Design cooling coil discharge temperature ___ °F
Discriminator control (Y/N) _
Maximum cooling coil discharge temperature ___ °F

Preheat coil plant type (Use Heating Codes 0 - 3) _
Outside temperature above which preheat is off ___ °F
Preheat available beginning month # __
Preheat available ending month # __
Design preheat coil discharge temperature ___ °F

Humidification plant type (Use Heating Codes 0 - 3) _
Outside temperature above which humidification is off ___ °F
Humidification available beginning month # __
Humidification available ending month # __
Humidification available during unoccupied cycle (Y/N) _
Minimum relative humidity maintained __ % RH

Baseboard plant type (Use Heating Codes 0 - 3) _
Outside temperature above which baseboard is off ___ °F
Baseboard available beginning month # __
Baseboard available ending month # __
Baseboard control type (1=thermostatic 2=OA reset) _
Percent of design heating load satisfied at design winter ___ %
Percent of design heating load satisfied at balance temp ___ %

Total supply fan power required (blank=default) ___ KW
(or) Supply fan power per 1000 CFM ____ KW/KCFM
Supply fan temperature rise (blank=default) ____ °F
Total return fan power required (blank=default) ___ KW
(or) Return fan power per 1000 CFM ____ KW/KCFM
Return fan temperature rise (blank=default) ____ °F
(VAV) Minimum percent of design air volume when heating ___ %
(VAV) Air volume control method (1=Speed 2=Discharge 3=Inlet) _
Occupied cycle fan control method (1=On Continuously 2=Cycles) _

Unoccupied cycle fan control method (1=On Continuously 2=Cycles) _

	Occup	Unocc
Outside air damper control method (see codes below)	_	_
1=No Outside Air 2=Fixed Dampers 3=Dry Bulb 4=Enthalpy		
Minimum percent outside air intake	___ %	___ %
Dry bulb switchover temperature	___ °F	___ °F

ASEAM2 SYSTEMS INPUT FORM (ABBREVIATED) System # ____

(Heat Pump and Window Air Conditioner only)
Zonal total cooling capacity method (1=User Entered 2=Autosized) _
(if autosized) Percent of design total load satisfied ___ %
Zonal sensible cooling capacity method (1=User Entered 2=Autosized) _
(if autosized) Percent of design sensible load satisfied ___ %
Design coefficient of performance ____
Outside temperature at minimum fluid loop temperature ___ °F
Minimum fluid loop temperature ___ °F
Outside temperature at maximum fluid loop temperature ___ °F
Maximum fluid loop temperature ___ °F

Zonal heating capacity method (1=User Entered 2=Autosized) _
(if autosized) Percent of max heat pump load satisfied ___ %
AAHP backup heating source (1=Furnace 2=Electric Resistance) _
Outside temperature below which backup heating is on ___ °F
Zonal electric resistance backup heating capacity method _
(1=Capacities Entered by Zone 2=Autosized)
(if autosized) Percent of design heating load satisfied ___ %
Design heating coefficient of performance ____

Furnace fuel source (see codes below) _
1=Electric 2=Natural Gas 3=#2 Oil 4=#4 Oil 5=#6 Oil
Furnace capacity (blank=autosize) _____ KBTUH
(if autosized) Percent of design load satisfied ___ %
Furnace efficiency at design load ___ %
Losses as percent of design load (at design load) ___ %
Losses as percent of design load (at no load) ___ %
Pilot gas annual consumption ___ therms

Zonal air volume method (1=User Entered 2=Autosized) _
(if autosized) Percent of design default air flow ___ %
Zonal fan power method (1=User Entered 2=Autosized) _
(if autosized) Percent of design default fan KW ___ %

DX total cooling capacity (blank=autosized) _____ tons
(if autosized) Percent of design total load satisfied ___ %
Design coefficient of performance ____
Minimum unloading ratio (% of capacity) ___ %
Minimum hot gas bypass ratio (% of capacity) ___ %
Condenser fan KW (blank=default) ___ KW
Outside temperature below which condenser fan is off ___ °F

Loads Zone #	Zone Name or Label	Zone CFM	Zone Fan KW	Tot Zone Clg Cap (Tons)	Sen Zone Clg Cap (Tons)	HP Htg Cap (Tons)	Zone HP Bkup Htg Cap (KW)

NOTE - THE ZONE NUMBER AND LABEL FOR EACH ZONE ASSIGNED TO THIS SYSTEM IS PRINTED HERE

_____ _____ _____ _____ _____ _____
_____ _____ _____ _____ _____ _____
_____ _____ _____ _____ _____ _____

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Fuel Type	Energy Units	Unit Cost $ / Unit	Conversion Factors (BTU/Unit) Site	Source
Electricity	KWH	_____	_____	_____
Natural Gas	Therms	_____	_____	_____
#2 Oil	Gallons	_____	_____	_____
#4 Oil	Gallons	_____	_____	_____
#6 Oil	Gallons	_____	_____	_____
Dist Heating	MBTU	_____	_____	_____
Dist Cooling	MBTU	_____	_____	_____

Label for Miscellaneous Energy Consumption	Fuel Units (See Codes Below)	Annual Consumption in Energy Units
_____	_	_____
_____	_	_____
_____	_	_____
_____	_	_____
_____	_	_____

Fuel Code	Fuel Type	Energy Units
1	Natural Gas	therms
2	Oil	gallons
3	Electricity	KWH
4	Dist Heating	MBTU
5	Dist Cooling	MBTU

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Type 1 Type 2

Centrifugal chiller cooling capacity (per chiller) _____ _____ tons
(or) Percent design load satisfied per chiller ___ ___ %
Number of chillers of this capacity _ _
Design coefficient of performance ____ ____
Minimum unloading ratio (% of capacity) __ __ %
Minimum part load ratio (% of capacity) __ __ %
Load management/operation (1=always on 2=as needed) _ _
Chilled water temperature at design load ___ ___ °F
Chilled water temperature at minimum load ____ ____ °F
Chilled water flow (blank=autosized) ____ ____ gpm
Chilled water pump KW (blank=autosized) ____ ____ KW

Absorption chiller cooling capacity (per chiller) _____ _____ tons
(or) Percent design load satisfied per chiller ___ ___ %
Number of chillers of this capacity _ _
Heat input energy source (1=Boiler 2=Dist Heat) _ _
Design coefficient of performance ____ ____
Minimum part load ratio (% of capacity) __ __ %
Number of absorption stages _ _
Load management/operation (1=always on 2=as needed) _ _
Chilled water temperature at design load ___ ___ °F
Chilled water temperature at minimum load ____ ____ °F
Chilled water flow (blank=autosized) ____ ____ gpm
Chilled water pump KW (blank=autosized) ____ ____ KW

Double Bundle chiller cooling capacity (per chiller) _____ _____ tons
(or) Percent design load satisfied per chiller ___ ___ %
Number of chillers of this capacity _ _
Design coefficient of performance ____ ____
Minimum unloading ratio (% of cap - clg mode) __ __ %
Minimum unloading ratio (% of cap - htg mode) __ __ %
Minimum part load ratio (% of capacity) __ __ %
Load management/operation (1=always on 2=as needed) _ _
Chilled water temperature at design load ____ ____ °F
Chilled water temperature at minimum load ____ ____ °F
Chilled water flow (blank=autosized) ____ ____ gpm
Chilled water pump KW (blank=autosized) ___ ___ KW
Design heat recovery temperature ___ ___ °F
Heat recovery backup (1=Boiler 2=Dist Htg) _ _

Reciprocating chiller cooling capacity (per chiller) ____ ____ tons
(or) Percent design load satisfied per chiller ___ ___ %
Number of chillers of this capacity _ _
Design coefficient of performance ____ ____
Minimum unloading ratio (% of capacity) __ __ %
Minimum part load ratio (% of capacity) __ __ %
Load management/operation (1=always on 2=as needed) _ _
Chilled water temperature at design load ____ ____ °F
Chilled water temperature at minimum load ____ ____ °F
Chilled water flow (blank=autosized) ____ ____ gpm
Chilled water pump KW (blank=autosized) ___ ___ KW

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Cooling tower total heat rejection capacity _____ tons
(or) Percent of design heat rejection load satisfied ___ %
Number of tower cells (blank=autosized) _
Fan KW per cell (blank=autosized) ___ KW
Number of fan speeds (1 or 2) _
Approach temperature __ °F
Condenser water temperature at design load ___ °F
Condenser water temperature at minimum load ___ °F
Condenser water flow rate (blank=autosized) ___ gpm
Condenser water pump KW (blank=autosized) ___ KW

DHW Energy Source (0=None 1=Elec 2=Gas 3=Oil 4=Blr 5=Dist) _
(if oil) Oil Type (2 or 4 or 6) _
(if gas) Annual pilot consumption ___ therms
Domestic Hot Water Heating Capacity (blank=autosized) ____ KBTUH
(if autosized) Peak hourly DHW usage ____ gal/hour
Average hourly DHW usage - occupied cycle ____ gal/hour
Average hourly DHW usage - unoccupied cycle ____ gal/hour
Domestic hot water supply temperature ___ °F
DHW inlet temperature - design summer __ °F
DHW inlet temperature - design winter __ °F
Circulating pump KW - occupied cycle ___ KW
Circulating pump KW - unoccupied cycle ___ KW
Design DHW heating efficiency ___ %
DHW losses - occupied cycle _____ BTUH
DHW losses - unoccupied cycle _____ BTUH

	Type 1	Type 2
Boiler Energy Source (1=Elect 2=Nat Gas 3=Oil)	_	_
(if oil) Oil type (2 or 4 or 6)	_	_
(if gas) Annual pilot consumption	____	____ therms
Boiler heating capacity (per boiler)	_____	_____ KBTUH
(or) % max heating load satisfied (per boiler)	___	___ %
Number of boilers with this capacity	_	_
Load management/operation (1=always on 2=as needed)	_	_
Boiler efficiency method (1=user entered 2=calc)	_	_
Design boiler efficiency (if user entered)	____	____ %
(if calc) Combustion air temperature	___	___ °F
(if calc) Stack temperature	___	___ °F
(if calc) Air-Fuel ratio	____	____ Lb/Lb
Minimum part load operating ratio (% of capacity)	__	__ %
Boiler pump KW (blank=autosized)	___	___ KW
Boiler losses - percent of capacity	__	__ %
Boiler losses - percent of load	__	__ %