## **Appendix B - Input Screen Forms**

B.1 B.2	How to Use the Input Forms 365 Loads Input Screens 365 B.2.1 Project/Building (LIPROJDT) 366 B.2.2 Project/Building Screen 2 (LIPRJ2DT) B.2.3 Occupancy Schedules (LIOCCSDT) B.2.4 Zones (LIZONEDT) 367 B.2.5 Lighting (LILITEDT) 367	366	366
	B.2.6 Daylighting (LIDAYLDT) 367 B.2.7 Daylighting Control (LIDAYCDT)	368	
	B.2.8 People (LIPEOPDT) 368	300	
	B.2.9 Electrical Equipment (LIELECDT)	368	
	B.2.10 Misc Sensible Loads (LIMSENDT)	369	
	B.2.11 Walls (LIWALLDT) 369		
	B.2.12 Roofs (LIROOFDT) 369 B.2.13 Windows (LIWNDODT) 370		
	B.2.14 External Shading (LISHADDT)	370	
	B.2.15 Doors (LIDOORDT) 370		
	B.2.16 Infiltration (LIINFLDT) 371		
	B.2.17 Misc Conduction (LIMCONDT)	371	
	B.2.18 Diversity Factors (LIDIVRDT) B.2.19 Monthly Diversity Factors (LIMOND)	371 T)	372
В.3	Systems Input Screens 372	J1)	372
	B.3.1 Systems Definitions (SISYSDAT)	372	
	B.3.2 System-Zone Assignment (SIZONDA	Γ)	373
	B.3.3 Heating (SIHTGDAT) 373		
	B.3.4 Cooling (SICLGDAT) 373		
	B.3.5 Preheat (SIPRHDAT) 374 B.3.6 Humidification (SIHUMDAT) 374		
	B.3.7 Baseboard (SIBBDAT) 374		
	B.3.8 Fans (SIFANDAT) 375		
	B.3.9 Outside Air Parameters (SIOACDAT)	375	
	B.3.10 Heat Pump Cooling (SIHPCDAT)	375	
	B.3.11 Heat Pump Heating (SIHPHDAT)	376	
	B.3.12 Furnace (SIFURDAT) 376 B.3.13 Zone Air Parameters (SIAIRDAT)	376	
	B.3.14 Direct Expansion Cooling (SIDXDAT)		377
B.4	Plant Input Screens 377	,	3,,
	B.4.1 Energy Costs/Conversions (PIENEDA		377
	B.4.2 Miscellaneous Energy Consumption		DAT) 378
	B.4.3 Centrifugal Chiller (PICENDAT)	378	
	B.4.4 Absorption Chiller (PIABCDAT) B.4.5 Double Bundle Chiller (PIDBCDAT)	379 379	
	B.4.6 Reciprocating Chiller (PIRECDAT) 380		
	B.4.7 Cooling Tower (PITOWDAT) 380	-	
	B.4.8 Domestic Hot Water (PIDHWDAT)	381	
	B.4.9 Boiler (PIBLRDAT) 381		
B.5	Abbreviated Input Forms 381		

#### **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.

# ASEAM3.0 User's Manual Appendix B - Input Screen Forms B.2.1 Project/Building (LIPROJDT) Building:

Building Names & ID'S:   Building File Name   Building Name   Project Number	
  Building Location:   Building Address	' I ,
Building Address	
Building Type:   Building Type 	
Building Areas and Zones:   Building Gross Floor Area   Building Net Conditioned Area   Number of Zones	ft²   ft²   ft²

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

```
| Building Location:
| North Latitude (Use '-' for South Lat) ______ deg
| West Longitude (Use '-' for East Long) ______ deg
| Operating Schedules:
| Typical weekday occupancy starting hour
| Typical weekday operating hours per day
| (Use only 8, 10, 12, 14, 16) _____ |
| Summer thermostat schedule beginning month number
| Summer thermostat schedule ending month number
| Time Zone Number _____ |
| 5=Eastern 6=Central 7=Mountain 8=Pacific |
| Daylight Savings Time Used (Y/N) ____ |
```

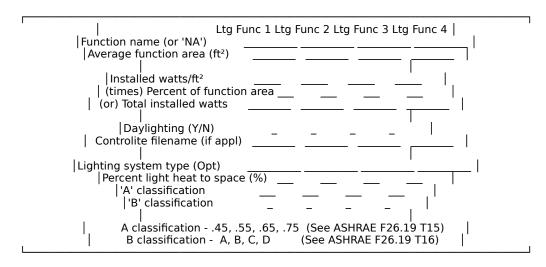
#### B.2.3 Occupancy Schedules (LIOCCSDT) Building:\_\_\_\_\_

```
| Enter the typical OCCUPIED schedule - Use military time (5:30 pm = 1730) |
| Values should be in 'hundreds' of hours - 8 am = 800 |
| If UNOCCUPIED for entire day - use 0 to 0 |
| If OCCUPIED for entire day - use 0 to 2400 |
| Day of Week |
| Weekdays .... from _____ to ____ |
| Saturdays .... from ____ to ____ |
| Sundays ..... from ____ to ____
```

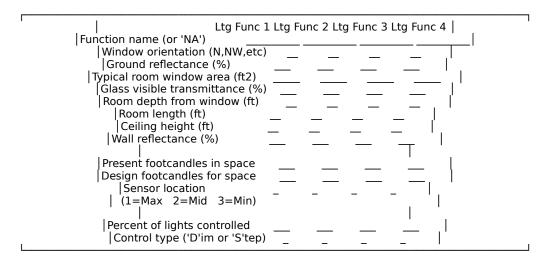
#### B.2.4 Zones (LIZONEDT) Building:\_\_\_\_\_ Zone # \_\_

Zone label	
  Zone function (Opt)  Zone area  Zone volume   (or) Floor to ceiling height	ft²   ft3   ft
Thermostat Set Point Temperatures   Summer occupied temperature   Winter occupied temperature   Winter unoccupied temperature	 °F   °F

#### B.2.5 Lighting (LILITEDT) Building:\_\_\_\_ Zone # \_\_



#### B.2.6 Daylighting (LIDAYLDT) Building:\_\_\_\_\_ Zone # \_\_



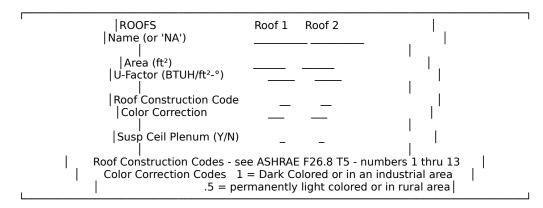
<b>Building:</b>	Zone	#	

IJEAN J		X B - Input S Ltg Func 2 Ltg Fun		I
	For Dimming Control Only   Minimum FC maintained by light   % of total power at min FC (%)     For Stepped Control Only   Number of Steps (max=4)   Step 1 artificial FC   Step 1 lighting watts   Step 2 artificial FC   Step 3 artificial FC   Step 3 lighting watts   Step 4 artificial FC   Step 4 lighting watts   Step 4 lighting watts	s		
.2.8 Peo	ple (LIPEOPDT) Building:	Zone	e #	
Γ	PEOPLE			
	  Number of people in zone   (or) Square feet per person  Sensible load per person  Latent load per person		 	
.2.9 Elec	ctrical Equipment (LIELECDT)	Building:_	Zone	#
.2.9 Elec		·	<del></del>	#
.2.9 Elec	ELECTRICAL EQUIPMENT       Electric equipment name (or 'NA')     Installed watts/ft²   (times) Percent of zone area	Type 1	Type 2	#
	ELECTRICAL EQUIPMENT	Type 1 ed to space heat g	Type 2	
	ELECTRICAL EQUIPMENT	Type 1 ed to space heat g	Type 2	
	ELECTRICAL EQUIPMENT	Type 1  Type 1  one of the space heat given by the spa	Type 2	_ Zone #
3.2.9 Elec	ELECTRICAL EQUIPMENT	Type 1  ed to space heat gi	Type 2	

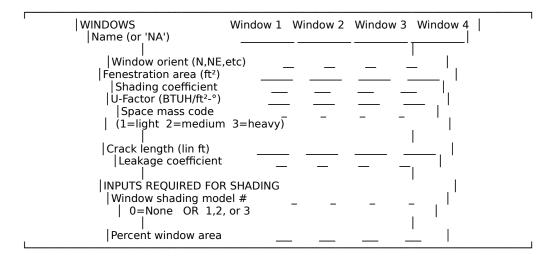
B.2.11 Walls (LIWALLDT) Building:\_\_\_\_ Zone # \_\_

WALLS   Name (or 'NA')	Wall 1	Wall 2	Wall 3	Wall 4	1
	up				

#### B.2.12 Roofs (LIROOFDT) Building:\_\_\_\_ Zone # \_\_



#### B.2.13 Windows (LIWNDODT) Building:\_\_\_\_ Zone # \_\_

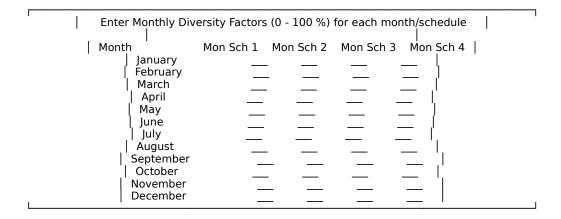


#### B.2.14 External Shading (LISHADDT) Building: \_\_\_\_ ALL ZONES

ASEAM	3.0 User's Manual Appendix B - Input Screen Forms    Window Width   Window Height   Overhang Details   Overh
	Overhang Depth Top of Window to Overhang Overhang extension beyond left edge of window
	Overhang extension beyond right edge of window
	Left fin extension above top of window
	Depth of right fin Right fin extension above top of window Dist from right edge of window to right fin Dist from right fin bottom to bottom of window
B.2.15	Doors (LIDOORDT) Building: Zone #
	DOORS Door 1 Door 2
	Name (or 'NA')
	Area (ft²)  U-Factor (BTUH/ft²-°)
B.2.16	Infiltration (LIINFLDT) Building: Zone #
	INFILTRATION
	Occupied air change rate air changes per hour
	Unoccupied air change rate air changes per hour
	These entries exclude infiltration by crack length method
B.2.17	Misc Conduction (LIMCONDT) Building: Zone #
	MISCELLANEOUS CONDUCTION Type 1 Type 2
	Name (or 'NA')
	Area (ft²)  U-Factor (BTUH/ft²-°)  Reference temperature at design summer (°F)  Reference temperature at design winter (°F)
B.2.18	Diversity Factors (LIDIVRDT) Building: Zone #

#### **ASEAM3.0 User's Manual Appendix B - Input Screen Forms** OCCUPIED UNOCCUPIED MONTHLY DIV FC PERIOD TABLE # (1-4) PERIOD People: Avg % of full occupancy Lights: Office Avg % of installed capacity Avg % of installed capacity NA NA Avg % of installed capacity NA Avg % of installed capacity Electric Equipment: Avg % of installed capacity Misc NA Avg % of installed capacity Miscellaneous Sensible Loads: Avg % of installed capacity NΑ NA Avg % of installed capacity

## B.2.19 Monthly Diversity Factors (LIMONDDT) Building:\_\_\_\_\_ ALL ZONES



#### **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     1   2	System Type   (Use Codes Below)	

```
ASEAM3.0 User's Manual
                                     Appendix B - Input Screen Forms
                       6
                       8
                       9
                      10
                                  Heating and Cooling System Types
                      2=CVRH 3=VAVR 4=CBVAV 5=SZRH 6=FCU 7=WSHP
                                                                            8=AAHP
                       Heating Only Systems
                                                   Cooling Only Systems
                          10=FURN 11=UH
                                            12=HV
                                                           13=WAC
B.3.2 System-Zone Assignment (SIZONDAT)
                                                            Building:
                      Zone Zone
                                                    Heating Heating Cooling
                      Number Label
                                                     Cooling ONLY
                                                                      ONLY
                                                System # System # System # |
                     User Enter Zone Names Are Written Here
B.3.3 Heating (SIHTGDAT)
                                     Building: System #_
                       Energy Source for Heating
                     Heating coil plant type (see codes below)
                        Heating Availability
                    Outside temperature above which heating is off
                      Heating available beginning month #
                      Heating available ending month #
                      Heating Discharge Conditions
                   Design heating coil discharge temperature
                       (Dual Duct System Only)
                        Discriminator Control (Y/N)
                 Outside temperature at maximum hot deck temperature
                      Maximum hot deck temperature
                  Outside temperature at minimum hot deck temperature
                       Minimum hot deck temperature
                                      Heating Coil Plant Types
              | 0=None 1=Boiler 2=Elect Resist 3=District Heat 4=DB Chiller 5=Furnace
B.3.4 Cooling (SICLGDAT)
                                     Building:
                                                         System #
                       Energy Source for Cooling
                    Cooling coil plant type (see codes below)
                        Cooling Availability
                    Outside temperature below which cooling is off
                      Cooling available beginning month #
                     Cooling available ending month #
```

#### **ASEAM3.0 User's Manual Appendix B - Input Screen Forms** Cooling Discharge Conditions Design cooling coil discharge temperature Discriminator control (Y/N) | Maximum cooling coil discharge temperature Cooling Coil Plant Types 2=Centrifugal 3=Absorption 0=None 1=DX4=District Cooling 5=Double Bundle 6=Cooling Tower (WSHP only) 7=Reciprocating **B.3.5 Preheat (SIPRHDAT)** Building: System #\_ Energy Source for Preheat Preheat coil plant type (see codes below) Preheat Availability Outside temperature above which preheat is off Preheat available beginning month # Preheat available ending month # Preheat Discharge Conditions Design preheat coil discharge temperature Preheat Coil Plant Types 2=Electric Resistance 0=None 1=Boiler 3=District Heat **B.3.6 Humidification (SIHUMDAT)** Building: System #\_ Energy Source for Humidification Humidification plant type (see codes below) Humidification Availability Outside temperature above which humidification is off Humidification available beginning month # Humidification available ending month # Humidification available during unoccupied cycle (Y/N) |Humidification Discharge Conditions Minimum relative humidity maintained (% RH) **Humidification Plant Types** 2=Electric Resistance 0=None 1=Boiler 3=District Heat **B.3.7 Baseboard (SIBBDAT)** Building: System # Energy Source for Baseboard Baseboard plant type (see codes below) Baseboard Availability Outside temperature above which baseboard is off Baseboard available beginning month # Baseboard available ending month # Baseboard Control and Capacity Baseboard control type $(1 = \text{thermostatic} \quad 2 = \text{reset by outside temperature})$

#### **ASEAM3.0 User's Manual** Appendix B - Input Screen Forms Percent of design heating load satisfied at design winter Percent of design heating load satisfied at balance temp Baseboard Plant Types 1=Boiler 0=None 2=Electric Resistance 3=District Heat **B.3.8 Fans (SIFANDAT)** Building: System # Supply Fans Total supply fan power required (blank=default) KW (or) Supply fan power per 1000 CFM KW/1000 CFM Supply fan temperature rise (blank=default) Return Fans Total return fan power required (blank=default) ΚW (or) Return fan power per 1000 CFM KW/1000 CFM Return fan temperature rise (blank=default) (VAV) Minimum percent of design air volume when heating (VAV) Air volume control method (1=Variable Speed 2=Discharge Dampers 3=Inlet Vanes) Fan Control Method (1=On Continuously 2=Cycles with load) Occupied cycle fan control method Unoccupied cycle fan control method **B.3.9 Outside Air Parameters (SIOACDAT)** Building: Occupied Cycle Only Outside air damper control method (see codes below) Minimum percent outside air intake Dry bulb switchover temperature Unoccupied Cycle Only Outside air damper control method (see codes below) Minimum percent outside air intake Dry bulb switchover temperature Outside Air Damper Control Methods 1=No Outside Air 2=Fixed Dampers 3=Dry Bulb 4=Enthalpy (Economizer) (Economizer) **B.3.10 Heat Pump Cooling (SIHPCDAT)** Building: System # | Heat Pump Cooling Capacity (Total Cooling) Zonal total cooling capacity method (1=Capacities Entered by Zone 2=Autosized) (if autosized) Percent of design total load satisfied Heat Pump Cooling Capacity (Sensible Cooling) Zonal sensible cooling capacity method (1=Capacities Entered by Zone 2=Autosized) (if autosized) Percent of design sensible load satisfied Cooling Performance Design coefficient of performance

#### **ASEAM3.0 User's Manual Appendix B - Input Screen Forms** | Water Source Heat Pump Only | Outside temperature at minimum fluid loop temperature Minimum fluid loop temperature Outside temperature at maximum fluid loop temperature Maximum fluid loop temperature **B.3.11 Heat Pump Heating (SIHPHDAT)** Building: System # Heat Pump Heating Capacity Zonal heating capacity method (1=Capacities Entered by Zone 2=Autosized) (if autosized) Percent of max heat pump load satisfied Air/Air Heat Pump Backup AAHP backup heating source (1=Furnace 2=Electric Resistance) Outside temperature below which backup heating is on Zonal electric resistance backup heating capacity method (1=Capacities Entered by Zone 2=Autosized) (if autosized) Percent of design heating load satisfied Heating Performance Design heating coefficient of performance **B.3.12 Furnace (SIFURDAT)** Building: System #\_ Furnace Energy Source Furnace fuel source (see codes below) Furnace Heat Output Furnace capacity (blank=autosize) **KBTU**ł (if autosized) Percent of design load satisfied Furnace Efficiency Furnace efficiency at design load Furnace Losses % Losses as percent of design load (at design load) Losses as percent of design load (at no load) % Pilot gas annual consumption therms Furnace Fuel Codes 1=Electric 2=Natural Gas 3=#2 Oil 4=#4 Oil 5=#6 Oil B.3.13 **Zone Air Parameters (SIAIRDAT) Building:** System # Zone Air Flow Sizing Zonal air volume method (1=Air Flows Entered by Zone 2=Autosized) (if autosized) Percent of design default air flow Zone Fan Power Zonal fan power method (1=Zone Fan KW Entered by Zone 2=Autosized) (if autosized) Percent of design default fan kw %

#### B.3.14 Direct Expansion Cooling (SIDXDAT) Building:\_\_\_\_\_ System #\_\_

DX Cooling Capacity (Total Cooling) DX total cooling capacity (blank=autosized) (if autosized) Percent of design total load satisfied	tons   tons
Cooling Performance Design coefficient of performance Minimum unloading ratio (% of capacity)	
Minimum hot gas bypass ratio (% of capacity)     DX Condenser	% ' <sub> </sub>
Condenser fan KW (blank=default) Outside temperature below which condenser fan is off	KW   °F

#### **B.4** Plant Input Screens

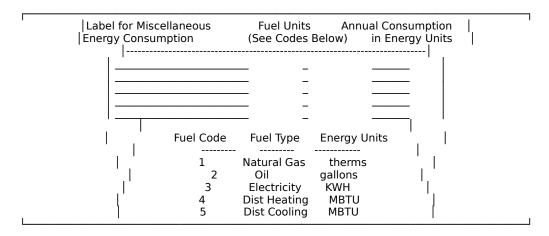
All Plant Input screen data files have the extension .PIS. The file name is given above each screen.

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.

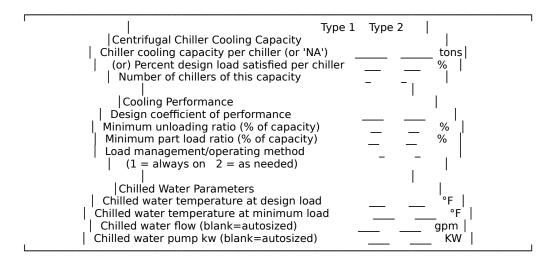
#### B.4.1 Energy Costs/Conversions (PIENEDAT) Building:\_\_\_\_\_

Fuel Type	Energy Units	Unit Cost \$ / Unit	Conversion Site	Factors (BTU/Un Source	it)
Electricity   Natural Gas   #2 Oil   #4 Oil   #6 Oil   Dist Heating	Therm Gallons Gallons Gallons MBTU	s	. <u>-</u>		

#### B.4.2 Miscellaneous Energy Consumption (PIMECDAT) Building:\_\_\_\_\_



#### B.4.3 Centrifugal Chiller (PICENDAT) Building:\_\_\_\_\_



#### B.4.4 Absorption Chiller (PIABCDAT) Building:\_\_\_\_\_

Type 1   Absorption Chiller Cooling Capacity   Chiller cooling capacity per chiller (or 'NA')   (or) Percent design load satisfied per chiller   Number of chillers of this capacity   Heat input energy source (1=Boiler 2=Dist Heat)	tons  %   
Cooling Performance Design coefficient of performance Minimum unloading ratio (% of capacity) Number of absorption stages Load management/operating method (1 = always on 2 = as needed)	
Chilled Water Parameters   Chilled water temperature at design load   Chilled water temperature at minimum load   Chilled water flow (blank=autosized)   Chilled water pump kw (blank=autosized)	°F   °F   gpm   KW

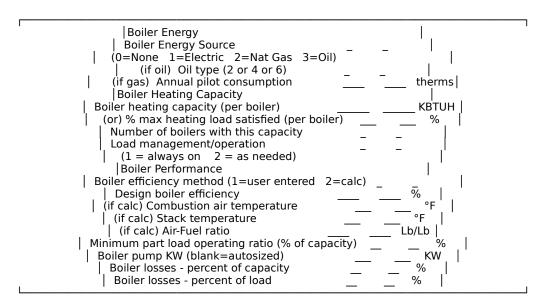
#### B.4.5 Double Bundle Chiller (PIDBCDAT) Building:\_\_\_\_\_

Type 1	Type 2
Double Bundle Chiller Cooling Capacity	
Chiller cooling capacity per chiller (or 'NA')	tons
(or) Percent design load satisfied per chiller	<u> </u>
Number of chillers of this capacity	'
Cooling Performance	'
Design coefficient of performance	'
Minimum unloading ratio (% of cap - clg mode)	<u> </u>
Minimum unloading ratio (% of cap - htg mode)	<sub>%  </sub>
Minimum part load ratio (% of capacity)	,
Load management/operating method	
(1 = always on 2 = as needed)	'
	1

#### **ASEAM3.0 User's Manual Appendix B - Input Screen Forms** Chilled Water Parameters Chilled water temperature at design load 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 ۰Ė 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 Chilled water temperature at minimum load 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) Number of fan speeds (1 or 2) Approach temperature Condenser Water Parameters Condenser water temperature at design load Condenser water temperature at minimum load Condenser water flow rate (blank=autosized) gpm Condenser water pump KW (blank=autosized) **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 Average hourly DHW usage - occupied cycle gal/hr gal/hr Average hourly DHW usage - unoccupied cycle gal/hr DHW Temperatures Domestic hot water supply temperature ۰F DHW inlet temperature - design summer DHW inlet temperature - design winter °F ٥F Circulating Pumps Circulating pump KW - occupied cycle KWCirculating 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:\_\_\_\_\_



#### **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 Bldg/Project Bldg/Project Bldg/Project Bldg/Project Bldg/Project	Building File Name Building Name Project Number Building Address Building Type Building Gross Floor Are Building Net Conditione Number of Zones			ft²	   -
Bldg/Project Bldg/Project Bldg/Project Bldg/Project Bldg/Project Bldg/Project	North Latitude (Use '-' f West Longitude (Use '-' Typical weekday occupa Typical weekday operat Summer thermostat so Summer thermostat so Time Zone Number Daylight Savings Time	for East Long ancy starting cing hours per hedule beginr hedule ending	) hour day ning month		
Bldg/Project	Operating Schedules V Operating Schedules S Operating Schedules S	aturdays fr	om	to to to	
(The	e following two screens a	pply to the er	ntire buildi	ng)	
Shading	Window Model Name (or Window Width Window Height Overhang Depth Top of Window to Overhang extension bey Overhang extension bey Depth of vert projection Depth of left fin Left fin extension above Distance from left edge Dist from left fin bottom Depth of right fin Right fin extension above Dist from right edge of volume Dist from right fin bottom Dist from right fin bottom	ang yond left edge yond right edge at end of ove top of window of window to to bottom of window to righ	ge of windo erhang _ w left fin _ window _ ow _ nt fin		
Month Sch Month Sch Month Sch Month Sch Month Sch Month Sch Month Sch Month Sch Month Sch	Month Mollanuary	n Sch 1 Mor — — — — — — — — — — — — — —	Sch 2 M	Mon Sch 3 —— —— —— —— —— —— ——	Mon Sch 4

ASI	EAM3.0 User's	Manual	Append	ix B - Inp	out Scree	en Forms	
Month Sch	September						
Month Sch	October						
Month Sch	November						
Month Sch	December						

ASEAM2 LC	LOADS INPUT FORMS (ABBREVIATED) Zone #	
Zone Zone Zone Zone Zone Zone Zone Zone	Zone label  Zone function (Opt)  Zone area  Zone volume  (or) Floor to ceiling height  Summer occupied temperature setpoint  Winter occupied temperature setpoint  Winter unoccupied temperature setpoint	°F : °F
Lighting	Function name (or 'NA')  Average function area (ft²)  Installed watts/ft²  (times) Percent of function area  (or) Total installed watts  Daylighting (Y/N)  Controlite filename (if appl)  Lighting system type (Opt)  Percent light heat to space (%)  'A' classification  'B' classification  Diversity Factor Occupied  Diversity Factor Unoccupied  Monthly Diversity Factor Table #	
	Mindow orientation (N,NW,etc)  Ground reflectance (%)  Typical room window area (ft2)  Glass visible transmittance (%)  Room depth from window (ft)  Room length (ft)  Ceiling height (ft)  Wall reflectance (%)  Present footcandles in space  Design footcandles for space  Sensor location  Percent of lights controlled  Control type ('D'im or 'S'tep)	
Dayl-Contro Dayl-Contro Dayl-Contro	crols % of total power at min FC (%)	

ASEAM3.0 User's Manual Dayl-Controls Step 4 lighting watts	Appendix B - Input Screen Forms — — — — —
People Number of people in zone People BTUH load per person People Diversity Factor Occupied _	(or) Square feet per person Sensible Latent _ Unoccupied Table #

ASEAM2 LO	DADS INPUT FORMS (ABBREVIATED)	Zone #
Misc Elect Misc Elect Misc Elect Misc Elect Misc Elect Misc Elect Misc Elect Misc Elect	Electric equipment name (or 'NA') Installed watts/ft² (times) Percent of zone area (or) Total installed watts Hooded (Y/N) Diversity Factor Occupied Diversity Factor Unoccupied Monthly Diversity Factor Table Nu	
Misc Sens Misc Sens Misc Sens Misc Sens Misc Sens Misc Sens Misc Sens Misc Sens	Load source name (or 'NA') Installed BTUH/ft² (times) Percent of zone area (or) Total installed BTUH Hooded (Y/N) Diversity Factor Occupied Diversity Factor Unoccupied Monthly Diversity Factor Table Nu	
Wall Wall Wall Wall	Name (or 'NA')  Wall Orient (N,NE,etc)  Area (ft²)  U-Factor (BTUH/ft²-°)  Wall Construction Group  Color Correction	
Roof Roof Roof	Name (or 'NA') Area (ft²) U-Factor (BTUH/ft²-°) Roof Construction Code Color Correction Susp Ceil Plenum (Y/N)	 
Window Window Window Window Window Window Window Window Window Window	Name (or 'NA') Window orient (N,NE,etc) Fenestration area (ft²) Shading coefficient U-Factor (BTUH/ft²-°) Space mass code Crack length (lin ft) Leakage coefficient Window shading model # Percent window area	
Door Door Door Door Door	Name (or 'NA')  Area (ft²)  U-Factor (BTUH/ft²-°)  Crack length (lin ft)  Leakage coefficient	<u></u>
	Occupied air change rate Unoccupied air change rate	_ air changes per hour air changes per hour

ASEAM3.0 User's Manual	Appendix B - Input Screen Forms
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  1	System Type  — — — — — — — — — — — — — — — — — — —
System Types 1=DDMZ 2=CVRH 3=VAVR 4=CBVAV 9=BB 10=FURN 11=UH 12=HV	
Number Label Coolin	g Heating Cooling ng ONLY ONLY ystem # System #

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 Ch  Outside temperature above which heating is off  Heating available beginning month #  Heating available ending month #  Design heating coil discharge temperature  Discriminator Control (Y/N) (DDMZ ONLY)  Outside temperature at maximum hot deck temperature  Maximum hot deck temperature (DDMZ ON  Outside temperature at minimum hot deck temperature (	°F °F (DDMZ ONLY)°F LY)°F DDMZ ONLY)°F
Cooling coil plant type (see codes below)  0=None 1=DX 2=Centrifugal 3=Absorption 4=District  5=Double Bundle 6=Cooling Tower (WSHP only) 7=Recipoutside temperature below which cooling is off  Cooling available beginning month #  Cooling available ending month #  Design cooling coil discharge temperature  Discriminator control (Y/N)  Maximum cooling coil discharge temperature	
Preheat coil plant type (Use Heating Codes 0 - 3) Outside temperature above which preheat is off Preheat available beginning month # Preheat available ending month # Design preheat coil discharge temperature	°F °F
Humidification plant type (Use Heating Codes 0 - 3) Outside temperature above which humidification is off Humidification available beginning month # Humidification available ending month # Humidification available during unoccupied cycle (Y/N) Minimum relative humidity maintained	°F   % RH
Baseboard plant type (Use Heating Codes 0 - 3) Outside temperature above which baseboard is off 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	°F  %
Total supply fan power required (blank=default) (or) Supply fan power per 1000 CFM Supply fan temperature rise (blank=default) Total return fan power required (blank=default) (or) Return fan power per 1000 CFM Return fan temperature rise (blank=default) (VAV) Minimum percent of design air volume when heatin (VAV) Air volume control method (1=Speed 2=Discharge) Occupied cycle fan control method (1=On Continuously 2)	3=Inlet)

# ASEAM3.0 User's Manual Appendix B - Input Screen Forms 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 Appendix B - Input Screen Forms Occup Unocc Unocc Outside Air 2=Fixed Dampers 3=Dry Bulb 4=Enthalpy Minimum percent outside air intake Ory bulb switchover temperature Appendix B - Input Screen Forms

ASEAM2 SYSTEMS INPUT FORM (ABBREVIATED)	System #
(Heat Pump and Window Air Conditioner only) Zonal total cooling capacity method (1=User Entered 2=4 (if autosized) Percent of design total load satisfied Zonal sensible cooling capacity method (1=User Entered (if autosized) Percent of design sensible load satisfied Design coefficient of performance Outside temperature at minimum fluid loop temperature Minimum fluid loop temperature Outside temperature at maximum fluid loop temperature Maximum fluid loop temperature	%
Zonal heating capacity method (1=User Entered 2=Autos (if autosized) Percent of max heat pump load satisfied AAHP backup heating source (1=Furnace 2=Electric Resis Outside temperature below which backup heating is on 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) (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	- KBTUH % % % 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) (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) Outside temperature below which condenser fan is off	tons % % KW °F
Zone Tot Zone Sen Zone HP Z Loads Zone Name Zone Zone Clg Cap Clg Cap Zone # or Label CFM Fan KW (Tons) (Tons) (T	Htg Cap Bkup Htg
NOTE - THE ZONE NUMBER	

ASEAM3.0	User'	s Manı	ual	Appen	dix B -	Input	Screen	Forms

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Fuel Type	Energy	Unit Co	st	Conver	sion F	actors (I	3TU/Unit)
	Units \$	/ Unit	Site		Sourc	e	
Electricity	KWH						
Natural Gas	s Therm	ıs ——	_		_		
#2 Oil	Gallons		_				
#4 Oil	Gallons						
#6 Oil	Gallons						
Dist Heatin	g MBTU	J	_				
Dist Coolin	g MBTU	J	_				
Label for M	iscellaneou	ıs F	Fuel U	nits	Ann	ual Cons	sumption
Energy Cor	sumption	(S	See Co	des Bel	ow)	in Ene	ergy Units
			_				_
			_				_
		<del></del>	_				_
			_				_
			_		-		_
	Fuel Code	Fuel Ty	pe	Energy	Units		
	1	Natural Ga	IS	therms			
	2	Oil	gallo	ons			
	3	Electricity		NΗ			
	4	Dist Heatir		MBTU			
	5	Dist Coolin	ig l	MBTU			

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Type 1 Type 2

Centrifugal chiller cooling capacity (per chiller)  (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  Chilled water temperature at minimum load  Chilled water flow (blank=autosized)  Chilled water pump KW (blank=autosized)	tons
Absorption chiller cooling capacity (per chiller)  (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  Chilled water flow (blank=autosized)  Chilled water pump KW (blank=autosized)	tons
Double Bundle chiller cooling capacity (per chiller)  (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  Chilled water temperature at minimum load  Chilled water flow (blank=autosized)  Chilled water pump KW (blank=autosized)  Design heat recovery temperature  Heat recovery backup (1=Boiler 2=Dist Htg)	tons  tons  fill  fill
Reciprocating chiller cooling capacity (per chiller)  (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  Chilled water flow (blank=autosized)  Chilled water pump KW (blank=autosized)	tons % %

ASEAM2 PLANT INPUT FORMS (ABBREVIATED)

Cooling tower total heat rejection capacity (or) Percent of design heat rejection load satisfied Number of tower cells (blank=autosized) Fan KW per cell (blank=autosized) Number of fan speeds (1 or 2) Approach temperature Condenser water temperature at design load Condenser water temperature at minimum load Condenser water flow rate (blank=autosized) Condenser water pump KW (blank=autosized)	tons % KW _ °F °F °F gpm KW
DHW Energy Source (0=None 1=Elec 2=Gas 3=Oil (if oil) Oil Type (2 or 4 or 6)  (if gas) Annual pilot consumption Domestic Hot Water Heating Capacity (blank=autosiz (if autosized) Peak hourly DHW usage Average hourly DHW usage - occupied cycle Average hourly DHW usage - unoccupied cycle Domestic hot water supply temperature DHW inlet temperature - design summer DHW inlet temperature - design winter Circulating pump KW - occupied cycle Circulating pump KW - unoccupied cycle Design DHW heating efficiency DHW losses - occupied cycle DHW losses - unoccupied cycle	therms
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 Boiler heating capacity (per boiler) (or) % max heating load satisfied (per boiler) Number of boilers with this capacity Load management/operation (1=always on 2=as ne Boiler efficiency method (1=user entered 2=calc) Design boiler efficiency (if user entered) (if calc) Combustion air temperature (if calc) Stack temperature (if calc) Air-Fuel ratio Minimum part load operating ratio (% of capacity) Boiler pump KW (blank=autosized) Boiler losses - percent of capacity Boiler losses - percent of load	therms KBTUH % eded) % °F F Lb/Lb KW %