

LEED NC 2.2 EA Credit 1 Summary Report

ICDS, LLC

06/08/2009
02:25PM

General Information

Simulation Program Name and Version **Hourly Analysis Program v4.41**
 Simulation Weather File Name **Phoenix IAP, Arizona (TM2)**
 Total Conditioned Floor Area **9,292** ft²
 Total Floor Area **9,292** ft²

Building Designations

Proposed Building **Proposed Building**
 Baseline - 0 degrees **[B000] ASHRAE 90.1**
 Baseline - 90 degrees **[B090] ASHRAE 90.1**
 Baseline - 180 degrees **[B180] ASHRAE 90.1**
 Baseline - 270 degrees **[B270] ASHRAE 90.1**

Window-to-Wall Ratios

	Proposed Design	Baseline
Window to Wall Ratio	30 %	30 %
Gross Wall Area (ft ²)	4,618	4,618
Vertical Window Area (ft ²)	1,400	1,400

Advisory Messages

	Proposed Building	Baseline Building (0 deg. rotation)	Difference
Number of hours heating loads not met	0	0	0
Number of hours cooling loads not met	0	12	-12

Table 1.5. Energy Type Summary

Energy Type	Utility Rate Description	Units of Energy	Units of Demand
Electric	SRP E-36	kWh	kW

Energy Units:

1 kBtu = 1,000 BTU
 1 kWh = 3.412 kBtu

Demand Units:

1 MBH = 1,000 BTU/h
 1 kW = 3.412 MBH

Table 1.8.1. Baseline Performance - Performance Rating Method Compliance

End Use	Process	Baseline Design Energy Type	Units of Annual Energy & Peak Demand	Baseline (0 deg rotation)	Baseline (90 deg rotation)	Baseline (180 deg rotation)	Baseline (270 deg rotation)	Baseline Design
Interior Lighting	No	Electric	Energy kWh	23,633	23,633	23,633	23,633	23,633
			Demand kW	6.1	6.1	6.1	6.1	6.1
Space Heating	No	Electric	Energy kWh	721	849	706	699	744
			Demand kW	22.6	26.3	22.4	24.4	23.9
Space Cooling	No	Electric	Energy kWh	49,691	50,465	49,514	51,419	50,272
			Demand kW	43.9	45.7	43.7	45.8	44.8
Pumps	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Heat Rejection	No	Electric	Energy kWh	0	0	0	0	0
			Demand kW	0.0	0.0	0.0	0.0	0.0
Fans - Interior	No	Electric	Energy kWh	32,119	32,125	32,116	32,137	32,124
			Demand kW	10.0	10.0	10.0	10.0	10.0
Receptacle Equipment	Yes	Electric	Energy kWh	30,462	30,462	30,462	30,462	30,462
			Demand kW	7.8	7.8	7.8	7.8	7.8

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Exterior Lights	No	Electric	Energy kWh	7,030	7,030	7,030	7,030	7,030
			Demand kW	1.8	1.8	1.8	1.8	1.8
DHW	No	Electric	Energy kWh	8,169	8,169	8,169	8,169	8,169
			Demand kW	4.5	4.5	4.5	4.5	4.5
Baseline Energy Totals	Total Annual Energy Use kBtu			518,024	521,126	517,359	523,908	520,104
	Annual Process Energy kBtu							103,937

Process Cost accounts for 20% of Baseline Performance. Process cost must equal at least 25% of Baseline Performance or the narrative at the end of this form must document why this building's process costs are less than 25%.

Table 1.8.1(b). Baseline Energy Costs

Energy Type	Baseline Cost (0 deg rotation) (\$)	Baseline Cost (90 deg rotation) (\$)	Baseline Cost (180 deg rotation) (\$)	Baseline Cost (270 deg rotation) (\$)	Baseline Building Performance (\$)
Electric	16,616	16,736	16,586	16,824	16,691
Total Baseline Costs	16,616	16,736	16,586	16,824	16,691

Table 1.8.2. Performance Rating Table - Performance Rating Method Compliance

End Use	Process	Proposed Design Energy Type	Proposed Design Units	Proposed Building Results	Baseline Building Units	Baseline Building Results	Percent Savings
Interior Lighting	No	Electric	Energy kWh	16,727	Energy kWh	23,633	29 %
			Demand kW	4.3	Demand kW	6.1	29 %
Space Heating	No	Electric	Energy kWh	2,161	Energy kWh	744	-191 %
			Demand kW	32.9	Demand kW	23.9	-37 %
Space Cooling	No	Electric	Energy kWh	18,621	Energy kWh	50,272	63 %
			Demand kW	16.7	Demand kW	44.8	63 %
Pumps	No	Electric	Energy kWh	2,980	Energy kWh	0	n/a
			Demand kW	1.1	Demand kW	0.0	n/a
Heat Rejection	No	Electric	Energy kWh	10,113	Energy kWh	0	n/a
			Demand kW	4.8	Demand kW	0.0	n/a
Fans - Interior	No	Electric	Energy kWh	17,295	Energy kWh	32,124	46 %
			Demand kW	12.0	Demand kW	10.0	-19 %
Receptacle Equipment	Yes	Electric	Energy kWh	30,462	Energy kWh	30,462	0 %
			Demand kW	7.8	Demand kW	7.8	0 %
Exterior Lights	No	Electric	Energy kWh	2,343	Energy kWh	7,030	67 %
			Demand kW	0.6	Demand kW	1.8	67 %
DHW	No	Electric	Energy kWh	8,169	Energy kWh	8,169	0 %
			Demand kW	4.5	Demand kW	4.5	0 %
Energy Totals	Total Annual Energy Use kBtu			371,470		520,104	29 %
	Annual Process Energy kBtu			103,937		103,937	0 %

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Table 1.8.2(b). Energy Cost and Consumption by Energy Type - Performance Rating Method Compliance

Energy Type	Proposed Design		Baseline Design		Percent Savings	
	Energy Use	Cost (\$)	Energy Use	Cost (\$)	Energy Use	Cost
Electric	108,872 kWh	12,083	152,434 kWh	16,691	28.6 %	27.6 %
Subtotal (Model Outputs)	371,470 kBTU	12,083	520,104 kBTU	16,691	28.6 %	27.6 %
On Site Renewable Energy	Energy Generated	Renewable Energy Cost				
PV Solar (11.2 kW)	17,000 kWh	1,870				
Exceptional Calculations	Energy Savings	Cost Savings				
	Proposed Design	Proposed Design	Baseline Design	Baseline Design	Percent Savings	Percent Savings
	Energy Use	Cost (\$)	Energy Use	Cost (\$)	Energy	Cost
Total:	kBTU	10,213	kBTU	16,691	%	38.8 %

Note: In Table 1.8.2(b), On-Site Renewable, Exceptional Calculation and amended total results at bottom of table are to be filled in manually if these separate calculations were performed.

LEED NC 2.2 EA Credit 1 Points Reference Table

New Construction % Cost Savings	Existing Building Renovations % Cost Savings	LEED NC 2.2 Points Awarded
10.5 %	3.5 %	1 pt
14.0 %	7.0 %	2 pts
17.5 %	10.5 %	3 pts
21.0 %	14.0 %	4 pts
24.5 %	17.5 %	5 pts
28.0 %	21.0 %	6 pts
31.5 %	24.5 %	7 pts
35.0 %	28.0 %	8 pts
38.5 %	31.5 %	9 pts
42.0 %	35.0 %	10 pts

LEED Points with
11.2 kW Solar
(Preliminary
Estimate)