



(Responsible Individual)

(Company Name)

I, **Erik Olsen**

, from

Transsolar

verify that the information provided below is accurate, to the best of my knowledge.

CREDIT COMPLIANCE

(Please complete the color coded criteria(s) based on the option path selected)

Please select the appropriate compliance path option

Option 1 (Pg 2): Performance Rating Method, ASHRAE 90.1-2004 Appendix G or equivalent (up to 10 points possible)

Option 2 (Pg 14): ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (4 points)

Option 3 (Pg 14): Advanced Buildings Benchmark™ Version 1.1, Basic Criteria & Prescriptive Measures (1 point)



OPTION 1: PERFORMANCE RATING METHOD

I confirm that the energy simulation software used for this project has all capabilities described in EITHER section 'G2 Simulation General Requirements' in Appendix G of ASHRAE 90.1-2004 OR the analogous section of the alternative qualifying energy code used.

I confirm that the baseline building and proposed building in this project's energy simulation runs use the assumptions and modeling methodology described in EITHER Appendix G of ASHRAE 90.1-2004 OR the analogous section of the alternative qualifying energy code used.

Complete the following sections to document compliance using Option 1:

- Section 1.1 - General Information
- Section 1.2 - Space Summary
- Section 1.3 - Advisory Messages
- Section 1.4 - Comparison of Proposed Design Versus Baseline Design Energy Model Inputs
- Section 1.5 - Energy Type Summary
- Section 1.6 - On-Site Renewable Energy *(if applicable)*
- Section 1.7 - Exceptional Calculation Measure Summary *(if applicable)*
- Section 1.8 - Performance Rating Method Compliance Report

Section 1.1 - General Information

Provide the following data for your project

Simulation Program:	<input type="text" value="Trnsys 17.0"/>	Quantity of Stories:	<input type="text" value="13"/>
Principal Heating Source:	<input type="text" value="Fossil Fuel"/>	Weather File:	<input type="text" value="Baltimore TMY3"/>
Energy Code Used:	<input type="text" value="ASHRAE 90.1-2004 Appendix G"/>	Climate Zone:	<input type="text" value="4A"/>
New Construction Percent:	<input type="text" value="100 %"/>	Existing Renovation Percent:	<input type="text" value="0 %"/>

Enter the Target Finder score for your building from the Energy Star website (http://www.energystar.gov/index.cfm?fuseaction=target_finder.&CFID=154897). The score has no bearing on the number of EAc1 points earned. Use the following process to evaluate the Target Finder score:

1. Enter the facility information
2. Enter the facility characteristics. Select each primary and secondary space type that applies to the project. Then complete the required information for each space type.
4. Enter the total energy use per energy source for your project based on the totals reflected in the Proposed Design energy simulation output report.

Target Finder Score:



Section 1.2 - Space Summary

Provide the space summary for your project
(click "CLEAR" to clear the contents of any row All numeric entries must be entered as whole numbers without commas):

Building Use (Occupancy Type)	Conditioned Area (sf)	Unconditioned Area (sf)	Total Area (sf)	
Classroom	18,939		18,939	<input type="button" value="CLEAR"/>
Multi-Occupant (jury rooms, lounge, conference)	7,455		7,455	<input type="button" value="CLEAR"/>
Corridors	14,998		14,998	<input type="button" value="CLEAR"/>
BOH (storage, AVroom, restrooms, copyrooms)		30,222	30,222	<input type="button" value="CLEAR"/>
Office (open, private, law clinics)	34,645		34,645	<input type="button" value="CLEAR"/>
Reception and Lobbies	8,746		8,746	<input type="button" value="CLEAR"/>
Library (reception, stacks, reading)	16,070		16,070	<input type="button" value="CLEAR"/>
Atrium	39,000		39,000	<input type="button" value="CLEAR"/>
Study Rooms	11,093		11,093	<input type="button" value="CLEAR"/>
Moot Courts	7,697		7,697	<input type="button" value="CLEAR"/>
Miscellaneous (playroom, computer lab)	835		835	<input type="button" value="CLEAR"/>
Total:	159,478	30,222	189,700	

Section 1.3 - Advisory Messages

Complete the following information from the simulation output files (all entries should be entered as whole numbers, without commas)

	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	0	0
Number of warning messages:	0	0	0
Number of error messages:	0	0	0
Number of defaults overridden:	0	0	0



Section 1.4 - Comparison of Proposed Design Versus Baseline Design Energy Model Inputs

Use **Table 1.4** to document the Baseline and Proposed design energy model inputs for your project. Include descriptions for:

1. Exterior wall, underground wall, roof, floor, and slab assemblies including framing type, assembly R-values, assembly U-factors, and roof reflectivity when modeling cool roofs. (Refer to ASHRAE 90.1 Appendix A)
2. Fenestration types, assembly U-factors (including the impact of the frame on the assembly), SHGCs, and visual light transmittances, overall window-to-gross wall ratio, fixed shading devices, and automated movable shading devices.
3. Interior lighting power densities, exterior lighting power, process lighting power, and lighting controls modeled for credit.
4. Receptacle equipment, elevators or escalators, refrigeration equipment, and other process loads.
5. HVAC system information including types and efficiencies, fan control, fan supply air volume, fan power, economizer control, demand control ventilation, exhaust heat recovery, pump power and controls, and any other pertinent system information. (Include the ASHRAE 90.1-2004 Table G.3.1.1B Baseline System Number).
6. Domestic hot water system type, efficiency and storage tank volume.
7. General schedule information

Documentation should be sufficient to justify the energy and cost savings numbers reported in the Performance Rating Table.

(Click "CLEAR" to clear the contents of any row.)

Model Input Parameter	Proposed Design Input	Baseline Design Input	
Exterior Wall Construction	U-0.156 insulated spandrel panel U-0.032 ground adjacent walls	U-0.124 Steel-Framed	CLEAR
Roof Construction	U-0.046 concrete, insulation entirely above deck	U-0.063 Insulation entirely above deck	CLEAR
Floor/Slab Construction	U-0.465 Interior floors (concrete) U-0.05 Exposed floors (soffits)	U-0.465 Interior floors (steel/suspended ceiling) U-0.052 Exposed floors (steel frame)	CLEAR
Window-to-gross wall ratio	48%	40%, proportionally distributed per ASHRAE 90.1-2004 Addendum a	CLEAR
Fenestration type	Fixed and operable curtainwall	Fixed	CLEAR
Fenestration U-factor	GL3 (AG0-Office/Classroom): Assembly U-0.374 GL7 (AG1-Library): Assembly U-0.335 GL1 (AG3-Atrium): Assembly U-0.317	Max Assembly U-0.57	CLEAR
Fenestration SHGC - North	GL3 (AG0-Office/Classroom): 0.27 GL7 (AG1-Library-70% opacity): 0.18 GL1 (AG3-Atrium): 0.27	Max Assembly SHGC (All) - 0.39	CLEAR
Fenestration SHGC - Non-North	GL3 (AG0-Office/Classroom): 0.27 GL7 (AG1-Library-70% opacity): 0.18 GL1 (AG3-Atrium): 0.27	Max Assembly SHGC (All) - 0.39	CLEAR
Fenestration Visual Light Transmittance	GL3 (AG0-Office/Classroom): 0.65 GL7 (AG1-Library-70% opacity): 0.29 GL1 (AG3-Atrium): 0.65	no requirements per Appendix G	CLEAR
Shading Devices	automated exterior shading and fixed rainscreens per architectural drawings	no shading projections modeled per Appendix G	CLEAR
Skylights	7% of roof area U-0.377 and SHGC 0.27	5% of gross roof area, Max Assembly U-1.17 and SHGC 0.39 for Glass skylight	CLEAR
Interior Lighting Power Density (W/sf)	Average: 1.04 Playroom 0.56 Classroom 1.26	Average: 1.18 Playroom 1.4 Classroom 1.4	CLEAR



TABLE 1.4 - Comparison of Proposed Design Versus Baseline Design

Model Input Parameter	Proposed Design Input	Baseline Design Input	
Daylighting Controls	Automated dimming with target illuminance 500 lx	No automatic lighting controls per App. G	CLEAR
Other Lighting Control Credits	Occupancy sensors in offices and studies, 10% reduction in lighting power per ASHRAE 90.1-2004 App G Section 9.4.1.2 +	No automatic lighting controls per App. G, per 90.1-2004 Section 9.4.1.2	CLEAR
Exterior Lighting Power (kW)	1.033 kW	2.762 kW	CLEAR
Process Energy	The following process equipment has been modeled in eQuest, and added to total building energy in post-processing: +	The following process equipment has been modeled in eQuest, and added to total building energy in post-processing: +	CLEAR
Receptacle Equipment Power Density (W/sf)	Desktop Use for Private Office 0.92 Desktop Use for Open Office 1.89 Desktop Use for Reception 1.10 +	Desktop Use for Private Office 0.92 Desktop Use for Open Office 1.89 Desktop Use for Reception 1.10 +	CLEAR
Heat Recovery Ventilation	Sensible and Latent Recovery with total energy recovery wheel and passive desiccant wheel. ERW: 1 - OA 26,430 cfm, EA 22,430 cfm, 80% eff. +	None	CLEAR
Primary HVAC System Type	Radiant slab cooling with minimum outside air at 30% over rates per ASHRAE 62.1-2004; AHU-1 serves the west wing and AHU-2 serves +	Table G3.1.1B System # 7 - Packaged rooftop variable air volume with reheat, same 30% increase as Proposed Design +	CLEAR
Other HVAC System Type	Perimeter zone finned tube heating	Not applicable	CLEAR
Fan Supply Volume	West SA: 2 x 12,400 cfm (min OA 10,430 cfm) East SA: 2 x 17,000 cfm (min OA 14,340 cfm) West EA: 2 x 11,700 cfm +	West SA: 97,287 cfm (min OA 8,658 cfm) East SA: 117,469 cfm (min OA 10,621 cfm) West EA: 87,558 cfm +	CLEAR
Fan Power	West SA: 38 kW East SA: 45 kW West EA: 25 kW +	West SA: 56 kW East SA: 66 kW West EA: 25 kW +	CLEAR
Economizer Control	None (DOAS)	Economizers not required for system 7 climate zone 4A	CLEAR
Demand Control Ventilation	Yes. CO2 sensors in densely occupied zones as per plans.	No DCV controls required per ASHRAE 90.1-2004 section 6.4.3.9. Baseline zones corresponding to proposed zones with DCV are modeled with +	CLEAR
AHU Discharge Temperature	65°F constant	for cooling mode, supply air temperature reset higher by 5°F under minimum cooling load conditions (per addendum a) +	CLEAR
Unitary Equipment Heating Efficiency	Not applicable	Not applicable	CLEAR
Chiller parameters	2 chillers, 230 tons each, 0.564 kW/ton, 0.528 NPLV	2 Electric screw chillers sized equally, 649 tons each (avg), 0.639 kW/ton (5.5 COP) per Table 6.8.1C +	CLEAR
Chilled water loop & pump parameters	42°F supply, 54°F return, reset from 42°F at 80°F outdoor and below linearly to max of 54°F at 60°F outdoor +	44°F supply, 56°F return, reset based on outdoor DB temperature: 44°F at 80°F and above, 54°F at 60°F and below, and ramped linearly between +	CLEAR
Boiler parameters	2 natural gas boilers, 2,250 MBH each, 95% eff	2 equally sized boilers, 3087 MBH avg, 80% eff per Table 6.8.1F	CLEAR
Hot water loop & pump parameters	180°F supply, 120°F return, supply reset linearly above 40°F outdoor temp, down to 120°F at 70° outdoor temp +	180°F supply, 130°F return, reset based on outdoor DB temperature: 180°F at 20°F and below, 150°F at 50°F and above, ramped linearly +	CLEAR
Cooling tower parameters	Axial fan cooling tower with VFC fans, efficiency 46 gpm/hp	Axial fan cooling tower with 2 speed fans, efficiency 38.2 gpm/hp	CLEAR
Condenser water loop & pump parameters	85°F supply, reset to 70°F where weather permits, floating up to leaving water temperature at design conditions +	85°F supply, reset to 70°F where weather permits, floating up to leaving water temperature at design conditions +	CLEAR
VAV minimum flow setpoint	30% of max flow	0.4 cfm/sf of floor area	CLEAR



Section 1.5 - Energy Type Summary

List the energy types used by your project (i.e. electricity, natural gas, purchased chilled water or steam, etc.) for either the Baseline or Proposed design. Also describe the utility rate used for each energy type (i.e. Feswick County Electric LG-S), as well as the units of energy used, and the units of demand used. (Click "CLEAR" to clear the contents of any row):

TABLE 1.5 - Energy Type Summary

Energy Type	Utility Rate Description	Units of Energy	Units of demand	
Electricity	EIA data for Maryland, Commercial	kWh	kW	<input type="button" value="CLEAR"/>
Natural Gas	EIA data for Maryland, Commercial	therms	MBH	<input type="button" value="CLEAR"/>
				<input type="button" value="CLEAR"/>
				<input type="button" value="CLEAR"/>

Energy Units:

- 1 kBtu = 1,000 Btu
- 1 kWh = 3,412 kBtu
- 1 therm = 100 kBtu
- 1 MBtu = 1,000 kBtu
- 1 MWh = 3,412 kBtu
- 1 ton hr = 12 kBtu

Demand Units

- 1 MBH = 1,000 Btu/h
- 1 kW = 3,412 MBH
- 1 MMBtuh = 1,000 MBH
- 1 ton = 12 MBH



Section 1.6 - On-Site Renewable Energy

If the project does not include on-site renewable energy, skip to Section 1.7

The project includes On-Site Renewable Energy

How is the on-site renewable energy cost calculated?

- This form will automatically calculate the *Renewable Energy Cost* based on the "virtual" energy rate from the proposed design energy model results. This form will subtract the *Renewable Energy Cost* from the proposed design energy model results to calculate the *Proposed Building Performance Rating*. (You do NOT need to fill out the "Renewable Energy Cost" field in Table 1.6 below)
- Renewable Energy Cost for each on-site renewable source is analyzed separately from the energy model based on local utility rate structures. The Renewable Energy Cost for each renewable source is reported in Table 1.6 below, This form will subtract the reported Renewable Energy Cost from the proposed design energy model results to calculate the Proposed Building Performance Rating.
- On-site renewable energy is modeled directly in the energy model. *Renewable Energy Cost* is already credited in the proposed design energy model results (i.e. the energy model already reflects zero cost for on-site renewable energy, and this form will NOT subtract the *Renewable Energy Cost* a second time).

Indicate the on-site renewable energy source(s) used, the backup energy type for each source (i.e. the fuel that is used when the renewable energy source is unavailable - ASHRAE 90.1-2004, Section G2.4), the rated capacity for the source, and the annual energy generated from each source.

TABLE 1.6 - Renewable Energy Source Summary

Renewable Source	Backup Energy Type	Annual Energy Generated	Rated Capacity	Renewable Energy Cost	
					CLEAR
					CLEAR



Section 1.7 - Exceptional Calculation Measure Summary

(If the energy analysis does not include exceptional calculation methods, skip to Section 1.8)

The energy analysis includes exceptional calculation method(s) (ASHRAE 90.1-2004, G2.5)

How is the exceptional calculation measure cost savings determined?

- This form will automatically calculate the exceptional calculation measure cost savings based on the "virtual" energy rate from the proposed design energy model results. This form will subtract this cost savings from the proposed design energy model results to calculate the *Proposed Building Performance Rating*.
- Exceptional calculation measure cost for each exceptional calculation measure is analyzed based on local utility rate structures. The *cost savings* for each exceptional calculation is reported below, This form will subtract the reported exceptional calculation cost savings from the proposed design energy model results to calculate the *Proposed Building Performance Rating*.

For each exceptional calculation method employed, document the predicted energy savings by energy type , the energy cost savings (if option 2 above is selected), and a narrative explaining the exceptional calculation method performed, and theoretical or empirical information supporting the accuracy of the method. Reference any applicable Credit Interpretation Rulings. [Note: if an end-use has an energy loss rather than an energy savings, enter it as a negative number]

Exceptional Calculation Measure Short Description:

Energy Type(s)	Annual Energy Savings by Energy Type	Annual Cost Savings	Exceptional Calculation Measure Narrative:

Exceptional Calculation Measure Short Description:

Energy Type(s)	Annual Energy Savings by Energy Type	Annual Cost Savings	Exceptional Calculation Measure Narrative:



Section 1.8 - Performance Rating Method Compliance Report (Option 1 Compliance Only)

In **Table 1.8.1**, list each energy end use for your project (including all end uses reflected in the baseline and proposed designs). Then check whether the end-use is a process load, select the energy type, and list the energy consumption and peak demand for each end-use for all four Baseline Design orientations. In **Table 1.8.1(b)** indicate the total baseline energy cost for each energy type for all four Baseline Design orientations. If either the baseline or proposed design uses more than one energy type for a single end use (i.e. electric resistance reheat, and central natural gas heating), enter each energy type as a separate end use (i.e. *Heating - Electric*, and *Heating, NG*).

Fill out the Proposed Design energy consumption and peak demand for each end use in **Table 1.8.2**. In **Table 1.8.2 (b)** indicate the total proposed energy cost for each energy type. [Note: Process loads for the proposed design must equal those listed in the Baseline design. Any process load energy savings for the project must be reported in Section 1.7.]

(Click "CLEAR" to clear the contents of any end use)

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° rotation)	Baseline (90° rotation)	Baseline (180° rotation)	Baseline (270° rotation)	Baseline Design	
Interior Lighting	<input type="checkbox"/>	Electricity	Energy Use (kWh)	382,885	382,885	382,885	382,885	382,885	CLEAR
			Demand (kW)	170.1	170.1	170.1	170.1	170.1	
Exterior Lighting	<input type="checkbox"/>	Electricity	Energy Use (kWh)	13,307	13,307	13,307	13,307	13,307	CLEAR
			Demand (kW)	2.8	2.8	2.8	2.8	2.8	
Space Heating	<input type="checkbox"/>	Natural Gas	Energy Use (therms)	98,260	93,700	96,512	98,182	96,663.5	CLEAR
			Demand (MBH)	6,484	6,279	6,394	6,363	6,380	
Space Cooling	<input type="checkbox"/>	Electricity	Energy Use (kWh)	474,506	473,465	475,341	478,274	475,396.5	CLEAR
			Demand (kW)	718.5	694.2	799.2	803.8	753.9	
Pumps	<input type="checkbox"/>	Electricity	Energy Use (kWh)	185,197	190,961	193,249	188,205	189,403	CLEAR
			Demand (kW)	132.9	131.9	138.4	138.8	135.5	
Heat Rejection	<input type="checkbox"/>	Electricity	Energy Use (kWh)	110,960	112,656	130,899	124,670	119,796.3	CLEAR
			Demand (kW)	63.4	61.5	70.5	71	66.6	
Fans - AHUs	<input type="checkbox"/>	Electricity	Energy Use (kWh)	155,602	176,994	161,762	156,790	162,787	CLEAR
			Demand (kW)	121.3	143.4	141	151.5	139.3	
Fans - Misc (Toilet Exhaust, etc)	<input checked="" type="checkbox"/>	Electricity	Energy Use (kWh)	73,815	73,815	73,815	73,815	73,815	CLEAR
			Demand (kW)	6.9	6.9	6.9	6.9	6.9	
Service Water Heating	<input type="checkbox"/>	Natural Gas	Energy Use (therms)	403.9	404	404	404	404	CLEAR
			Demand (MBH)	14.2	14.2	14.2	14.2	14.2	
Receptacle Equipment	<input checked="" type="checkbox"/>	Electricity	Energy Use (kWh)	195,768	195,768	195,768	195,768	195,768	CLEAR
			Demand (kW)	51.1	51.1	51.1	51.1	51.1	



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° rotation)	Baseline (90° rotation)	Baseline (180° rotation)	Baseline (270° rotation)	Baseline Design	
Space Heating	<input type="checkbox"/>	Electricity	Energy Use (kWh)	6,300	6,300	6,300	6,300	6,300	CLEAR
			Demand (kW)	2.9	2.9	2.9	2.9	2.9	
	<input type="checkbox"/>		Energy Use						CLEAR
			Demand						
Data Center Equipment and Facility	<input checked="" type="checkbox"/>	Electricity	Energy Use (kWh)	443,640	443,640	443,640	443,640	443,640	CLEAR
			Demand (kW)	2.5	2.5	2.5	2.5	2.5	
	<input type="checkbox"/>		Energy Use						CLEAR
			Demand						
Elevators & Escalators	<input checked="" type="checkbox"/>	Electricity	Energy Use (kWh)	17,960	17,960	17,960	17,960	17,960	CLEAR
			Demand (kW)	2.1	2.1	2.1	2.1	2.1	
	<input type="checkbox"/>		Energy Use						CLEAR
			Demand						
Baseline Energy Totals:	Total Annual Energy Use (MBtu/year)			16,895	16,534	16,839	16,961	16,807	
	Annual Process Energy (MBtu/year)							2,495	

Note: Process Cost equals at least 25% of Baseline Performance, as required for showing credit compliance.

Table 1.8.1(b) - Baseline Energy Costs

Energy Type	Baseline Cost (0° rotation)	Baseline Cost (90° rotation)	Baseline Cost (180° rotation)	Baseline Cost (270° rotation)	Baseline Building Performance
Electricity	\$236,481	\$239,666	\$240,492	\$238,980	\$238,904
Natural Gas	\$90,380	\$86,203	\$88,779	\$90,308	\$88,917
Total Baseline Costs:	\$326,861	\$325,869	\$329,271	\$329,288	\$327,821

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		Electricity	Energy Use (kWh)	279,987	Energy Use (kWh)	382,885	26.9 %
			Demand (kW)	132.9	Demand (kW)	170.1	21.9 %



Exterior Lighting	Electricity	Energy Use (kWh)	4,977	Energy Use (kWh)	13,307	62.6	%
		Demand (kW)	1,033	Demand (kW)	2.8	-39055.5	%
Space Heating	Natural Gas	Energy Use (therms)	27,446	Energy Use (therms)	96,663.5	71.6	%
		Demand (MBH)	2,435	Demand (MBH)	6,380	61.8	%
Space Cooling	Electricity	Energy Use (kWh)	199,192	Energy Use (kWh)	475,396.5	58.1	%
		Demand (kW)	166	Demand (kW)	753.9	78	%
Pumps	Electricity	Energy Use (kWh)	115,996	Energy Use (kWh)	189,403	38.8	%
		Demand (kW)	54.5	Demand (kW)	135.5	60	%
Heat Rejection	Electricity	Energy Use (kWh)	7,469	Energy Use (kWh)	119,796.3	93.8	%
		Demand (kW)	7.5	Demand (kW)	66.6	89	%
Fans - AHUs	Electricity	Energy Use (kWh)	57,904	Energy Use (kWh)	162,787	64.4	%
		Demand (kW)	34.1	Demand (kW)	139.3	75.6	%
Fans - Misc (Toilet Exhaust, etc)	Electricity	Energy Use (kWh)	73,815	Energy Use (kWh)	73,815	0	%
		Demand (kW)	6.9	Demand (kW)	6.9	0	%
Service Water Heating	Natural Gas	Energy Use (therms)	340	Energy Use (therms)	404	15.8	%
		Demand (MBH)	12	Demand (MBH)	14.2	14.3	%
Receptacle Equipment	Electricity	Energy Use (kWh)	195,768	Energy Use (kWh)	195,768	0	%
		Demand (kW)	51.1	Demand (kW)	51.1	0	%
Space Heating	Electricity	Energy Use (kWh)	3,430	Energy Use (kWh)	6,300	45.6	%
		Demand (kW)	2.8	Demand (kW)	2.9	0	%
	Electricity	Energy Use (kWh)		Energy Use		0	%
		Demand (kW)		Demand		0	%
Data Center Equipment and FCU	Electricity	Energy Use (kWh)	443,640	Energy Use (kWh)	443,640	0	%
		Demand (kW)	2.5	Demand (kW)	2.5	0	%
		Energy Use		Energy Use		0	%
		Demand		Demand		0	%
Elevators & Escalators	Electricity	Energy Use (kWh)	17,960	Energy Use (kWh)	17,960	0	%
		Demand (kW)	2.1	Demand (kW)	2.1	0	%
		Energy Use		Energy Use		0	%
		Demand		Demand		0	%
Energy Totals:		Total Annual Energy Use (MBtu/year)	7,556		16,807	55	%
		Annual Process Energy (MBtu/year)	2495		2,495	0	%



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	
Electricity	1,400,138	kWh	\$160,736	2,081,057	kWh	\$238,904	32.7	%	32.7	%
Natural Gas	27,786	therms	\$25,454	97,066	therms	\$88,917	71.4	%	71.4	%
	0			0			0	%	0	%
	0			0			0	%	0	%
Subtotal (Model Outputs):	7,556	(MBtu/year)	\$186,190	16,807	(MBtu/year)	\$327,821	55	%	43.2	%
On-Site Renewable Energy	Energy Generated		Renewable Energy Cost							
Exceptional Calculations	Energy Savings		Cost Savings							
Total:	Proposed Design			Baseline Design			Percent Savings			
	Energy Use		Cost	Energy Use		Cost	Energy		Cost	
	7,556	(MBtu/year)	\$186,190	16,807	(MBtu/year)	\$327,821	55	%	43.2	%

DOCUMENTATION DESCRIPTION LOG

Please upload the compliance summaries for ASHRAE 90.1-2004 (or qualifying local energy code) and/or LEED if available from the energy simulation software used. Please also upload the energy rate tariff from the project's energy providers if the project is not using the default rates in the LEED-NC v2.2 Reference Guide.

If the software is incapable of producing the energy code or LEED compliance summaries please provide output summaries and example input summaries for both the baseline and proposed buildings that support the data entered in the template tables above.

* Output summaries must include simulated energy consumption by end use as well as total building energy consumption and cost by energy type used in the building.

* Example input summaries must be a sampling of model input assumptions, focusing on the most common systems present in the building. The example input summaries should be taken from the simulation software's standard input reports if available; if the software will not produce input summary reports then screen captures of representative inputs are acceptable. The example input summaries must include samples of the following input information:

1. Occupancy and usage patterns
2. Assumed envelope component sizes and traits (area, R-value, U-value, etc.)
3. Assumed mechanical equipment types and traits (capacity, efficiency, etc.)

Please note that uploaded documents should be SUMMARIES, and not large quantities of detailed data

Documentation Description Log

In the text box below, please reference the file name of each uploaded file (e.g. simulationsummary.pdf)

01_LEED EAc1 Summary Documentation - Narrative describing overall project design and summary of all model inputs
 02_TS_Zoning_Plans - Outlines of thermal zones modelled, for reference
 03_Elevations and Sections - Architectural drawings, for reference
 04_Sequence of Operations for HVAC controls - for reference
 05_Mechanical Drawings - for reference
 06_Automated Window Zones - architectural plans depicting example zones with automated windows
 07_Lighting Control Sequence & LED Narrative - Summary of lighting design approach and LED controls system
 08_EIA_MD_Electricity_Commercial - Electric utility rates used in model
 09_EIA_MD_NaturalGas_Commercial - Natural gas utility rates used in model

Response to Review Comments_120210.pdf

00_Leed EAc1 Template_120206.pdf

01_LEED EAc1 Summary Documentation_new.pdf

10_OutputReport.pdf

11_NFRC Testing Thermal Report.pdf

12_FrameU-ValCalc.xls

13_UB Law-ATC SD Comment Mark-up.pdf

14_M7.60 - Example SHADE CONTROLS.pdf

15_MCLA Site Lighting Plans.pdf

16_MCLA Site Lighting Calc and Schedule.pdf

17_plant_output.xlsx



OPTION 2: ASHRAE ADVANCED ENERGY DESIGN GUIDE FOR SMALL OFFICE BUILDINGS, 2004

The building complies with all the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004. The following restrictions are applicable:

The project is less than 20,000 square feet.

The project is office occupancy.

The project has fully complied with all applicable criteria as established in the Advanced Energy Design Guide for the climate zone in which the building is located

Climate zone

OPTION 3: ADVANCED BUILDINGS BENCHMARK™ VERSION 1.1

The project fully complies with the Basic Criteria and Prescriptive Measures of the Advanced Buildings Benchmark™ Version 1.1 with the exception of the following sections: 1.7 Monitoring and Trend-logging, 1.11 Indoor Air Quality, and 1.14 Networked Computer Monitor Control.

Climate zone



NARRATIVE (Optional)

Please provide any additional comments or notes regarding special circumstances or considerations regarding the project's credit approach.

[Large greyed-out text area for narrative input]

The project is seeking point(s) for this credit using an alternate compliance approach. The compliance approach, including references to any applicable Credit Interpretation Rulings is fully documented in the narrative above. *(Indicate the number of points documented in the "Alternative Compliance Points Documented" field below).*

Alternative Compliance Points Documented

Project Name: The John and Frances Angelos Law Center

Credit: EA Credit 1: Optimize Energy Performance

Points Documented:

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