



February 18, 2009

Mr. Art Kunkel
Holy Spirit Catholic Church
2232 Smallhouse Road
Bowling Green, KY 42104

RE: " Holy Spirit Catholic Church – Spirit I
BCDM Project No. 0364-06

Dear Mr. Kunkel:

Attached please find the results of the Energy Analysis we have conducted on Spirit I.

This analysis was prepared per the requirements of the LEED Energy & Atmosphere Credit 1: Optimize Energy Performance. As such, we created two computer models of Spirit I. First, per our HVAC design (water-to-water heat pump system utilizing a geo-thermal loop field for heating and cooling) and second, per ASHRAE/IESNA Standard 90.1-2004 (packaged rooftop air conditioning unit utilizing refrigerant cooling and electric heating), which could be considered a “base minimum” system from a performance standpoint.

In comparing the two models, the results show an anticipated cost savings of 33.8% annually, which should qualify the project for 7 points toward its LEED accreditation. This determination was the main impetus for us to perform this analysis.

In addition to acquiring LEED points, this analysis makes additional information available as well. While a number of different reports could be provided from this data, the attached pages provide a general overview as to the expected benefits of the new HVAC system. These include:

1. An Economic Summary report with a graphic comparison of the month-by-month cost savings of the two systems.
2. An Economic Parameters report with our anticipated rates of inflation, etc.
3. An Alternative Comparison showing simple and life-cycle payback periods.
4. Yearly cash flow report for anticipated utility and maintenance costs.

These reports show that while first costs for the specified system are higher than alternative system, the overall life-cycle cost will have significant savings. In addition, maintenance costs will also be greatly reduced not only when the system is new, but by larger margins each year throughout the useful duration of the system.

Mr. Art Kunkel
Holy Spirit Catholic Church
Page 2

Thank you again for the opportunity to work with the parish. We hope this analysis and associated reports provide the parish with an overall understanding of the benefits this new heating and cooling system.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul J. Kelly". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Paul J. Kelly, AIA
Beringer Ciaccio Dennell Mabrey, Inc.

PJK/mmm
Attachment

c: File 0364-06, 3.0

Holy Spirit II

Location
Building owner
Program user
Company
Comments

Bowling Green, KY
Holy Spirit Church
RMD
BCDM

By
Dataset name
Calculation time
TRACE® 700 version

BCDM
C:\CDS\TRACE700\Projects\Design & North Orientation\03
10:23 AM on 02/05/2009
6.1.3

Location
Latitude
Longitude
Time Zone
Elevation
Barometric pressure

B-Green, KY
37.0 deg
86.4 deg
6
201 ft
29.7 in. Hg

Air density
Air specific heat
Density-specific heat product
Latent heat factor
Enthalpy factor

0.0755 lb/cu ft
0.2444 Btu/lb.°F
1.1072 Btu/h-cfm.°F
4,873.6 Btu-min/h-cu ft
4.5294 lb-min/hr-cu ft

Summer design dry bulb
Summer design wet bulb
Winter design dry bulb
Summer clearness number
Winter clearness number
Summer ground reflectance
Winter ground reflectance
Carbon Dioxide Level

93 °F
78 °F
0 °F
1.00
1.00
0.20
0.20
400 ppm

Design simulation period
Cooling load methodology
Heating load methodology

January - December
CLTD-CLF (ASHRAE TFM)
UATD



TRACE® 700 Economic Summary

By BCDM

Project Information

Weather file B-Green, KY
 Project Name Holy Spirit II
 Location Bowling Green, KY
 Building Owner Holy Spirit Church
 User RMD
 Company BCDM
 Comments

Alternative 1 - - HVAC Loads
 Alternative 2 - -

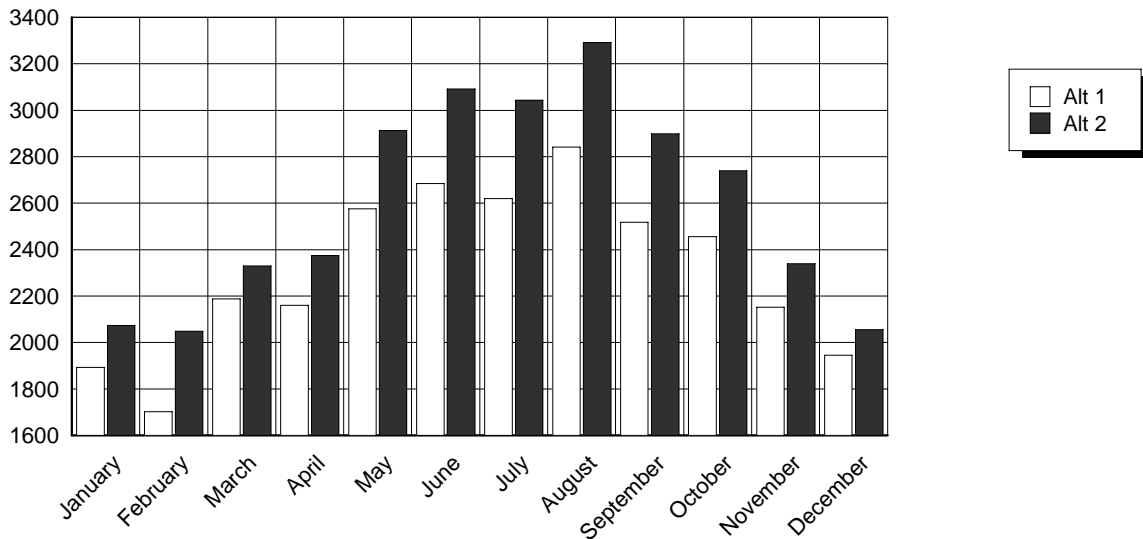
Economic Summary

| Alternative Number | Installed Cost | First Year Util. Cost | Final Year Util. Cost | First Year Maint. Cost | Final Year Maint. Cost | Life Cycle Cost |
|--------------------|----------------|-----------------------|-----------------------|------------------------|------------------------|-----------------|
| 1 | 1,124,404.00 | 27,733.27 | 65,355.26 | 2,013.00 | 8,285.78 | 1,583,556.17 |
| 2 | 974,404.00 | 31,198.78 | 73,521.96 | 8,813.00 | 36,275.50 | 1,615,460.33 |

Economic Comparison of the Alternatives

| Alt. - Alt. | First Cost Difference | Simple Payback | Net Present Value | Life Cycle Payback | Internal Rate of Return |
|-------------|-----------------------|----------------|-------------------|--------------------|-------------------------|
| 1 - 2 | 150,000.00 | 14.6 yrs | 31,904.16 | 22.1 yrs | 11.1 % |

Monthly Utility Costs



Equipment Energy Consumption by Alternative

| | Elect Cons. (kWh) | Gas Cons. (kBtu) | Water Cons. (1000 gals) | Percent of Total Energy | Total Building Energy (kBtu/yr) | Total Source Energy* (kBtu/yr) |
|------------------------------------|-------------------------|------------------------|-------------------------------|-------------------------------|---------------------------------------|--------------------------------------|
| Alternative: 1 - HVAC Loads | | | | | | |
| Primary heating | 1,068 | | | 0.4% | 3,643 | 10,932 |
| Other Htg Accessories | 48 | | | 0.0% | 162 | 488 |
| Cooling Compressor | 48,460 | | | 18.0% | 165,395 | 496,233 |
| Other Clg Accessories | 241 | | | 0.1% | 824 | 2,472 |
| Supply Fans | 27 | | | 0.0% | 92 | 278 |
| Pumps | 1,920 | | | 0.7% | 6,553 | 19,660 |
| Stand-alone Base Utilities | 27,857 | 280,959 | | 40.9% | 376,034 | 581,001 |
| Lighting | 85,217 | | | 31.6% | 290,844 | 872,621 |
| Receptacles | 22,210 | | | 8.3% | 75,801 | 227,427 |
| Totals** | 187,047 | 280,959 | | 100.0% | 919,350 | 2,211,111 |
| Alternative: 2 - | | | | | | |
| Primary heating | 1,072 | 1,984 | | 0.6% | 5,644 | 13,070 |
| Other Htg Accessories | 176 | | | 0.1% | 600 | 1,799 |
| Cooling Compressor | 68,273 | | | 22.9% | 233,014 | 699,113 |
| Tower/Cond Fans | 5,573 | | 273 | 1.9% | 19,019 | 57,063 |
| Condenser Pump | 2,943 | | | 1.0% | 10,043 | 30,133 |
| Other Clg Accessories | 121 | | | 0.0% | 415 | 1,244 |
| Supply Fans | 27 | | | 0.0% | 92 | 278 |
| Pumps | 2,147 | | | 0.7% | 7,329 | 21,990 |
| Stand-alone Base Utilities | 27,857 | 280,959 | | 36.9% | 376,034 | 581,001 |
| Lighting | 85,217 | | | 28.6% | 290,844 | 872,621 |
| Receptacles | 22,210 | | | 7.4% | 75,801 | 227,427 |
| Totals** | 215,615 | 282,943 | 273 | 100.0% | 1,018,837 | 2,505,737 |

* Note: Resource Utilization factors are included in the Total Source Energy value.

ECONOMIC PARAMETERS

By BCDM

Project Name: Holy Spirit II
Location: Bowling Green, KY
Building Owner: Holy Spirit Church
Program User: RMD
Company: BCDM
Comments:

| | | | |
|--------------------------|------------------------------------|---------------------------------|-------|
| Study Life: | 30 Yrs | Income Tax Rate: | 0.0 % |
| Mortgage Life: | 20 Yrs | Cost of Capital: | 8.0 % |
| Depreciation Life: | 20 Yrs | Property tax rate: | 0.0 % |
| Mortgage Interest Rate: | 8.0 % | Insurance Expense rate: | 0.0 % |
| Percent Financed: | 70.0 % | | |
| Depreciation Method: | Declining balance to straight line | <u>Annual Inflation Rate Of</u> | |
| Declining Balance Taxes: | 100.0 % | Maintenance Expense | 5.0 % |
| | | Replacement Expense | 5.0 % |
| | | Property Taxes | 0.0 % |
| | | Insurance Expense | 0.0 % |

| Alt # | First Cost (\$/ton) | First Cost (\$/ft ²) | Additional First Cost | Total First Cost | Maintenance Cost (\$/ton) | Maintenance Cost (\$/ft ²) | Total Maint. Cost | Total Alt. Cost |
|-------|------------------------|-------------------------------------|-----------------------|------------------|------------------------------|---|-------------------|-----------------|
| 1 | 19,389.85 | 32.59 | 250,000.00 | 1,124,404.00 | 44.64 | 0.08 | 2,013.00 | 1,126,417.00 |
| 2 | 19,389.85 | 32.59 | 100,000.00 | 974,404.00 | 195.43 | 0.33 | 8,813.00 | 983,217.00 |

ALTERNATIVE COMPARISON

By BCDM

Alternative 1 vs Alternative 2

| | |
|---|------------|
| First Cost Difference | 150,000.00 |
| Down Payment Difference | 45,000.00 |
| Net Present Value of Incremental Cash Flows | 31,904.16 |
| Life Cycle Cost Difference | 31,904.16 |
| Revenue Penalty Difference | 0.00 |
| Simple Payback on Investment | 14.6 years |
| Life Cycle Payback on Investment | 22.1 years |
| Internal Rate of Return | 11.1 % |
| Cost of capital (%) | 8.0 |

| Year | Cash Flow Difference | Cumulative Cash Flow Difference | Present Value of Flow Difference | Net Present Value |
|------|----------------------|---------------------------------|----------------------------------|-------------------|
| 0 | -45,000.00 | -45,000.00 | -45,000.00 | -45,000.00 |
| 1 | -428.97 | -45,428.97 | -397.20 | -45,397.20 |
| 2 | 14.99 | -45,413.98 | 12.85 | -45,384.35 |
| 3 | 479.08 | -44,934.91 | 380.31 | -45,004.04 |
| 4 | 964.22 | -43,970.68 | 708.73 | -44,295.31 |
| 5 | 1,471.42 | -42,499.26 | 1,001.42 | -43,293.88 |
| 6 | 2,001.71 | -40,497.55 | 1,261.42 | -42,032.47 |
| 7 | 2,556.17 | -37,941.39 | 1,491.50 | -40,540.97 |
| 8 | 3,135.94 | -34,805.45 | 1,694.25 | -38,846.72 |
| 9 | 3,742.22 | -31,063.23 | 1,872.04 | -36,974.68 |
| 10 | 4,376.25 | -26,686.98 | 2,027.05 | -34,947.62 |
| 11 | 5,039.36 | -21,647.62 | 2,161.29 | -32,786.33 |
| 12 | 5,732.90 | -15,914.72 | 2,276.61 | -30,509.72 |
| 13 | 6,458.33 | -9,456.39 | 2,374.71 | -28,135.00 |
| 14 | 7,217.15 | -2,239.24 | 2,457.16 | -25,677.84 |
| 15 | 8,010.95 | 5,771.70 | 2,525.38 | -23,152.46 |
| 16 | 8,841.38 | 14,613.08 | 2,580.71 | -20,571.75 |
| 17 | 9,710.19 | 24,323.27 | 2,624.36 | -17,947.38 |
| 18 | 10,619.20 | 34,942.47 | 2,657.44 | -15,289.94 |
| 19 | 11,570.33 | 46,512.80 | 2,680.98 | -12,608.95 |
| 20 | 12,565.57 | 59,078.37 | 2,695.92 | -9,913.03 |
| 21 | 24,301.52 | 83,379.88 | 4,827.64 | -5,085.40 |
| 22 | 25,391.41 | 108,771.29 | 4,670.51 | -414.89 |
| 23 | 26,532.04 | 135,303.34 | 4,518.81 | 4,103.92 |
| 24 | 27,725.84 | 163,029.18 | 4,372.35 | 8,476.27 |
| 25 | 28,975.34 | 192,004.52 | 4,230.92 | 12,707.19 |
| 26 | 30,283.22 | 222,287.74 | 4,094.34 | 16,801.53 |
| 27 | 31,652.26 | 253,940.00 | 3,962.45 | 20,763.98 |
| 28 | 33,085.40 | 287,025.40 | 3,835.05 | 24,599.03 |
| 29 | 34,585.71 | 321,611.11 | 3,712.00 | 28,311.03 |
| 30 | 36,156.42 | 357,767.53 | 3,593.13 | 31,904.16 |

YEARLY CASH FLOW

By BCDM

Alternative: 1
Life Cycle Cost: \$ 1,583,556.17

| Year | Utility Cost (\$) | Maint. Cost (\$) | Interest Cost (\$) | Principal Cost (\$) | Property Taxes (\$) | Insurance Cost (\$) | Revenue Penalty (\$) | Replace. Expenses (\$) | Deprec. Tax (\$) | Cash Flow Effect (\$) | Present Value (\$) |
|------|-------------------|------------------|--------------------|---------------------|---------------------|---------------------|----------------------|------------------------|------------------|-----------------------|--------------------|
| 0 | 0 | 0 | 0 | 337,321 | 0 | 0 | 0 | 0 | 0 | 337,321 | 337,321 |
| 1 | 27,733 | 2,013 | 62,967 | 17,199 | 0 | 0 | 0 | 0 | 56,220 | 109,912 | 101,771 |
| 2 | 28,565 | 2,114 | 61,591 | 18,575 | 0 | 0 | 0 | 0 | 56,220 | 110,845 | 95,032 |
| 3 | 29,422 | 2,219 | 60,105 | 20,061 | 0 | 0 | 0 | 0 | 56,220 | 111,808 | 88,757 |
| 4 | 30,305 | 2,330 | 58,500 | 21,666 | 0 | 0 | 0 | 0 | 56,220 | 112,801 | 82,912 |
| 5 | 31,214 | 2,447 | 56,766 | 23,400 | 0 | 0 | 0 | 0 | 56,220 | 113,827 | 77,469 |
| 6 | 32,150 | 2,569 | 54,894 | 25,272 | 0 | 0 | 0 | 0 | 56,220 | 114,886 | 72,397 |
| 7 | 33,115 | 2,698 | 52,873 | 27,293 | 0 | 0 | 0 | 0 | 56,220 | 115,979 | 67,672 |
| 8 | 34,108 | 2,832 | 50,689 | 29,477 | 0 | 0 | 0 | 0 | 56,220 | 117,107 | 63,269 |
| 9 | 35,132 | 2,974 | 48,331 | 31,835 | 0 | 0 | 0 | 0 | 56,220 | 118,272 | 59,165 |
| 10 | 36,186 | 3,123 | 45,784 | 34,382 | 0 | 0 | 0 | 0 | 56,220 | 119,475 | 55,340 |
| 11 | 37,271 | 3,279 | 43,034 | 37,132 | 0 | 0 | 0 | 0 | 56,220 | 120,716 | 51,773 |
| 12 | 38,389 | 3,443 | 40,063 | 40,103 | 0 | 0 | 0 | 0 | 56,220 | 121,998 | 48,447 |
| 13 | 39,541 | 3,615 | 36,855 | 43,311 | 0 | 0 | 0 | 0 | 56,220 | 123,322 | 45,345 |
| 14 | 40,727 | 3,796 | 33,390 | 46,776 | 0 | 0 | 0 | 0 | 56,220 | 124,689 | 42,452 |
| 15 | 41,949 | 3,986 | 29,648 | 50,518 | 0 | 0 | 0 | 0 | 56,220 | 126,101 | 39,752 |
| 16 | 43,208 | 4,185 | 25,606 | 54,560 | 0 | 0 | 0 | 0 | 56,220 | 127,559 | 37,233 |
| 17 | 44,504 | 4,394 | 21,242 | 58,924 | 0 | 0 | 0 | 0 | 56,220 | 129,064 | 34,882 |
| 18 | 45,839 | 4,614 | 16,528 | 63,638 | 0 | 0 | 0 | 0 | 56,220 | 130,619 | 32,687 |
| 19 | 47,214 | 4,845 | 11,437 | 68,730 | 0 | 0 | 0 | 0 | 56,220 | 132,225 | 30,638 |
| 20 | 48,630 | 5,087 | 5,938 | 74,228 | 0 | 0 | 0 | 0 | 56,220 | 133,883 | 28,724 |
| 21 | 50,089 | 5,341 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55,430 | 11,012 |
| 22 | 51,592 | 5,608 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57,200 | 10,521 |
| 23 | 53,140 | 5,889 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59,028 | 10,053 |
| 24 | 54,734 | 6,183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60,917 | 9,607 |
| 25 | 56,376 | 6,492 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62,868 | 9,180 |
| 26 | 58,067 | 6,817 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64,884 | 8,772 |
| 27 | 59,809 | 7,158 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66,967 | 8,383 |
| 28 | 61,604 | 7,515 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69,119 | 8,012 |
| 29 | 63,452 | 7,891 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71,343 | 7,657 |
| 30 | 65,355 | 8,286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73,641 | 7,318 |

Alternative: 2
Life Cycle Cost: \$ 1,615,460.33

| Year | Utility Cost (\$) | Maint. Cost (\$) | Interest Cost (\$) | Principal Cost (\$) | Property Taxes (\$) | Insurance Cost (\$) | Revenue Penalty (\$) | Replace. Expenses (\$) | Deprec. Tax (\$) | Cash Flow Effect (\$) | Present Value (\$) |
|------|-------------------|------------------|--------------------|---------------------|---------------------|---------------------|----------------------|------------------------|------------------|-----------------------|--------------------|
| 0 | 0 | 0 | 0 | 292,321 | 0 | 0 | 0 | 0 | 0 | 292,321 | 292,321 |
| 1 | 31,199 | 8,813 | 54,567 | 14,905 | 0 | 0 | 0 | 0 | 48,720 | 109,483 | 101,374 |
| 2 | 32,135 | 9,254 | 53,374 | 16,097 | 0 | 0 | 0 | 0 | 48,720 | 110,860 | 95,045 |
| 3 | 33,099 | 9,716 | 52,086 | 17,385 | 0 | 0 | 0 | 0 | 48,720 | 112,287 | 89,137 |
| 4 | 34,092 | 10,202 | 50,696 | 18,776 | 0 | 0 | 0 | 0 | 48,720 | 113,766 | 83,621 |
| 5 | 35,114 | 10,712 | 49,194 | 20,278 | 0 | 0 | 0 | 0 | 48,720 | 115,298 | 78,470 |
| 6 | 36,168 | 11,248 | 47,571 | 21,900 | 0 | 0 | 0 | 0 | 48,720 | 116,887 | 73,659 |
| 7 | 37,253 | 11,810 | 45,819 | 23,652 | 0 | 0 | 0 | 0 | 48,720 | 118,535 | 69,164 |
| 8 | 38,371 | 12,401 | 43,927 | 25,545 | 0 | 0 | 0 | 0 | 48,720 | 120,243 | 64,964 |
| 9 | 39,522 | 13,021 | 41,883 | 27,588 | 0 | 0 | 0 | 0 | 48,720 | 122,014 | 61,037 |
| 10 | 40,707 | 13,672 | 39,676 | 29,795 | 0 | 0 | 0 | 0 | 48,720 | 123,851 | 57,367 |
| 11 | 41,929 | 14,355 | 37,293 | 32,179 | 0 | 0 | 0 | 0 | 48,720 | 125,756 | 53,934 |
| 12 | 43,186 | 15,073 | 34,719 | 34,753 | 0 | 0 | 0 | 0 | 48,720 | 127,731 | 50,724 |

YEARLY CASH FLOW

By BCDM

| | | | | | | | | | | | |
|----|--------|--------|--------|--------|---|---|---|---|--------|---------|--------|
| 13 | 44,482 | 15,827 | 31,938 | 37,533 | 0 | 0 | 0 | 0 | 48,720 | 129,781 | 47,720 |
| 14 | 45,816 | 16,618 | 28,936 | 40,536 | 0 | 0 | 0 | 0 | 48,720 | 131,906 | 44,909 |
| 15 | 47,191 | 17,449 | 25,693 | 43,779 | 0 | 0 | 0 | 0 | 48,720 | 134,112 | 42,278 |
| 16 | 48,607 | 18,322 | 22,190 | 47,281 | 0 | 0 | 0 | 0 | 48,720 | 136,400 | 39,814 |
| 17 | 50,065 | 19,238 | 18,408 | 51,064 | 0 | 0 | 0 | 0 | 48,720 | 138,774 | 37,506 |
| 18 | 51,567 | 20,200 | 14,323 | 55,149 | 0 | 0 | 0 | 0 | 48,720 | 141,238 | 35,345 |
| 19 | 53,114 | 21,210 | 9,911 | 59,561 | 0 | 0 | 0 | 0 | 48,720 | 143,795 | 33,319 |
| 20 | 54,707 | 22,270 | 5,146 | 64,326 | 0 | 0 | 0 | 0 | 48,720 | 146,449 | 31,420 |
| 21 | 56,348 | 23,384 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79,732 | 15,839 |
| 22 | 58,039 | 24,553 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 82,592 | 15,192 |
| 23 | 59,780 | 25,780 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85,560 | 14,572 |
| 24 | 61,573 | 27,069 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88,643 | 13,979 |
| 25 | 63,421 | 28,423 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 91,843 | 13,411 |
| 26 | 65,323 | 29,844 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95,167 | 12,867 |
| 27 | 67,283 | 31,336 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98,619 | 12,346 |
| 28 | 69,301 | 32,903 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 102,204 | 11,847 |
| 29 | 71,381 | 34,548 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 105,929 | 11,369 |
| 30 | 73,522 | 36,276 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 109,797 | 10,911 |



(Responsible Individual)

(Company Name)

I, **Robert Dana, P.E.**

, from **BCDM, Inc.**

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="Trace 700"/> | Quantity of Stories: | <input type="text" value="1"/> |
| Principal Heating Source: | <input type="text" value="Electricity"/> | Weather File: | <input type="text" value="Bowling Green KY 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) | |
|--|----------------------------------|------------------------------------|----------------------------|--------------------------------------|
| Religious Building | 26,834 | | 26,834 | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
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| | | | | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
| | | | | <input type="button" value="CLEAR"/> |
| Total: | 26,834 | | 26,834 | |

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: | 145 | 161 | 16 |
| Number of hours cooling loads not met: | 115 | 128 | 13 |
| 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 | Face Brick, 6" LW Concrete, 6" Insulation, U-0.0433 | Mass wall, U-0.151 | <input type="button" value="CLEAR"/> |
| Roof Construction | 4" Wood, 8" Insulation, U-0.0254 | U-0.034 | <input type="button" value="CLEAR"/> |
| Floor/Slab Construction | 4" LW Concrete, U-0.2126 | U-0.730 | <input type="button" value="CLEAR"/> |
| Window-to-gross wall ratio | 24.2% | 24.2% | <input type="button" value="CLEAR"/> |
| Fenestration type | Double pane, clear, low-e, insulated | Double pane, clear | <input type="button" value="CLEAR"/> |
| Fenestration U-factor | U-0.28 | U-0.570 | <input type="button" value="CLEAR"/> |
| Fenestration SHGC - North | 0.39 | 0.39 | <input type="button" value="CLEAR"/> |
| Fenestration SHGC - Non-North | 0.39 | 0.39 | <input type="button" value="CLEAR"/> |
| Fenestration Visual Light Transmittance | | | <input type="button" value="CLEAR"/> |
| Shading Devices | None | None | <input type="button" value="CLEAR"/> |
| | | | <input type="button" value="CLEAR"/> |
| Interior Lighting Power Density (W/sf) | 1.3 | 1.3 | <input type="button" value="CLEAR"/> |



TABLE 1.4 - Comparison of Proposed Design Versus Baseline Design

| Model Input Parameter | Proposed Design Input | Baseline Design Input | |
|---|--|--|--------------------------------------|
| Daylighting Controls | None | None | <input type="button" value="CLEAR"/> |
| Other Lighting Control Credits | None | None | <input type="button" value="CLEAR"/> |
| Exterior Lighting Power (kW) | 6.36 | 18.27 | <input type="button" value="CLEAR"/> |
| Process Lighting (kW) | | | <input type="button" value="CLEAR"/> |
| Receptacle Equipment Power Density (W/sf) | 2.94 | 2.94 | <input type="button" value="CLEAR"/> |
| | | | <input type="button" value="CLEAR"/> |
| Primary HVAC System Type | Water-to-water heat pump with 4-pipe fan coils | Table G3.1.1B System # 4 - Packaged rooftop air conditioner with electric heat | <input type="button" value="CLEAR"/> |
| Other HVAC System Type | Unit heater (water source) in mechanical room | Unit heater (electric) in mechanical room | <input type="button" value="CLEAR"/> |
| Fan Supply Volume | 18477 cfm | 18601 cfm | <input type="button" value="CLEAR"/> |
| Fan Power | 0.01397 kW | 0.01397 kW | <input type="button" value="CLEAR"/> |
| Economizer Control | N/A | N.R. | <input type="button" value="CLEAR"/> |
| Demand Control Ventilation | N/A | N/A | <input type="button" value="CLEAR"/> |
| Unitary Equipment Cooling Efficiency | 14.14 EER | 10.3, 9.7, & 9.5 EER | <input type="button" value="CLEAR"/> |
| Unitary Equipment Heating Efficiency | 2.96 COP | 10.3, 9.7, & 9.5 EER | <input type="button" value="CLEAR"/> |
| Chiller parameters | N/A | N/A | <input type="button" value="CLEAR"/> |
| Chilled water loop & pump parameters | 110 ft head | N/A | <input type="button" value="CLEAR"/> |
| Boiler parameters | N/A | N/A | <input type="button" value="CLEAR"/> |
| Hot water loop & pump parameters | 110 ft head | N/A | <input type="button" value="CLEAR"/> |
| Cooling tower parameters | N/A | N/A | <input type="button" value="CLEAR"/> |
| Condenser water loop & pump parameters | 130 ft head | N/A | <input type="button" value="CLEAR"/> |
| | | | <input type="button" value="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 | 0.12 | kWh | kW | <input type="button" value="CLEAR"/> |
| Natural Gas | 1.882 | 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 MBtu = 1,000 kBtu
 1 kWh = 3.412 kBtu 1 MWh = 3,412 kBtu
 1 therm = 100 kBtu 1 ton hr = 12 kBtu

Demand Units

1 MBH = 1,000 Btu/h 1 MMBtuh = 1,000 MBH
 1 kW = 3.412 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 | |
|------------------|--------------------|-------------------------|----------------|-----------------------|--------------------------------------|
| | | | | | <input type="button" value="CLEAR"/> |
| | | | | | <input type="button" value="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: |
|----------------------|--------------------------------------|----------------------|--|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |

Exceptional Calculation Measure Short Description:

| Energy Type(s) | Annual Energy Savings by Energy Type | Annual Cost Savings | Exceptional Calculation Measure Narrative: |
|----------------------|--------------------------------------|----------------------|--|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | |



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 **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)

| 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) | 121,160 | 121,160 | 121,160 | 121,160 | 121,160 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Exterior Lighting | <input type="checkbox"/> | Electricity | Energy Use (kWh) | 80,023 | 80,023 | 80,023 | 80,023 | 80,023 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Space Heating | <input type="checkbox"/> | Electricity | Energy Use (kWh) | 88,916 | 88,623 | 89,525 | 89,419 | 89,120.8 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Space Cooling | <input type="checkbox"/> | Electricity | Energy Use (kWh) | 135,384 | 134,205 | 134,312 | 135,408 | 134,827.3 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Pumps | <input type="checkbox"/> | Electricity | Energy Use (kWh) | 1 | 1 | 1 | 1 | 1 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Heat Rejection | <input type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Fans - Interior | <input type="checkbox"/> | Electricity | Energy Use (kWh) | 72 | 71 | 71 | 71 | 71.3 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Fans - Parking Garage | <input type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |
| Service Water Heating | <input type="checkbox"/> | Natural Gas | Energy Use (therms) | 3,127.4 | 3,127.4 | 3,127.4 | 3,127.4 | 3,127.4 | <input type="button" value="CLEAR"/> |
| | | | Demand (MBH) | | | | | | |
| Receptacle Equipment | <input checked="" type="checkbox"/> | Electricity | Energy Use (kWh) | 13,665 | 13,665 | 13,665 | 13,665 | 13,665 | <input type="button" value="CLEAR"/> |
| | | | Demand (kW) | | | | | | |



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 (Process) | <input checked="" type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | CLEAR |
| | | | Demand (kW) | | | | | | |
| Refrigeration | <input checked="" type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | CLEAR |
| | | | Demand (kW) | | | | | | |
| Data Center Equipment | <input checked="" type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | CLEAR |
| | | | Demand (kW) | | | | | | |
| Cooking | <input checked="" type="checkbox"/> | | Energy Use | | | | | | CLEAR |
| | | | Demand | | | | | | |
| Elevators & Escalators | <input checked="" type="checkbox"/> | Electricity | Energy Use (kWh) | | | | | | CLEAR |
| | | | Demand (kW) | | | | | | |
| | <input type="checkbox"/> | | Energy Use | | | | | | CLEAR |
| | | | Demand | | | | | | |
| Baseline Energy Totals: | | Total Annual Energy Use (MBtu/year) | | 1,811 | 1,806 | 1,810 | 1,813 | 1,810 | |
| | | Annual Process Energy (MBtu/year) | | | | | | 47 | |

Note: Process Cost accounts for 3% 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° rotation) | Baseline Cost (90° rotation) | Baseline Cost (180° rotation) | Baseline Cost (270° rotation) | Baseline Building Performance |
|------------------------------|-----------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Electricity | \$52,706 | \$52,529 | \$52,650 | \$52,769 | \$52,663 |
| Natural Gas | \$5,885 | \$5,885 | \$5,885 | \$5,885 | \$5,885 |
| | | | | | |
| | | | | | |
| Total Baseline Costs: | \$58,591 | \$58,414 | \$58,535 | \$58,654 | \$58,548 |

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) | 121,160 | Energy Use (kWh) | 121,160 | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |



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 |
|-----------------------------|----------|-----------------------------|-------------------------------------|---------------------------|-------------------------|---------------------------|-----------------|
| Exterior Lighting | | Electricity | Energy Use (kWh) | 27,857 | Energy Use (kWh) | 80,023 | 65.2 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Space Heating | | Electricity | Energy Use (kWh) | 1 | Energy Use (kWh) | 89,120.8 | 100 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Space Cooling | | Electricity | Energy Use (kWh) | 100,673 | Energy Use (kWh) | 134,827.3 | 25.3 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Pumps | | Electricity | Energy Use (kWh) | 6,099 | Energy Use (kWh) | 1 | -693,533 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Heat Rejection | | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Fans - Interior | | Electricity | Energy Use (kWh) | 43 | Energy Use (kWh) | 71.3 | 39.9 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Fans - Parking Garage | | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Service Water Heating | | Natural Gas | Energy Use (therms) | 2,810.3 | Energy Use (therms) | 3,127.4 | 10.1 % |
| | | | Demand (MBH) | | Demand (MBH) | | 0 % |
| Receptacle Equipment | X | Electricity | Energy Use (kWh) | 23,232 | Energy Use (kWh) | 13,665 | -70 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Interior Lighting (Process) | X | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Refrigeration | X | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Data Center Equipment | X | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| Cooking | X | | Energy Use | | Energy Use | | 0 % |
| | | | Demand | | Demand | | 0 % |
| Elevators & Escalators | X | Electricity | Energy Use (kWh) | | Energy Use (kWh) | | 0 % |
| | | | Demand (kW) | | Demand (kW) | | 0 % |
| | | | Energy Use | | Energy Use | | 0 % |
| | | | Demand | | Demand | | 0 % |
| Energy Totals: | | | Total Annual Energy Use (MBtu/year) | 1,233 | | 1,810 | 31.9 % |
| | | | Annual Process Energy (MBtu/year) | 79 | | 47 | -68.1 % |



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 | 279,065 kWh | \$33,487 | 438,867 kWh | \$52,663 | 36.4 % | 36.4 % |
| Natural Gas | 2,810 therms | \$5,288 | 3,127 therms | \$5,885 | 10.1 % | 10.1 % |
| | 0 | | 0 | | 0 % | 0 % |
| | 0 | | 0 | | 0 % | 0 % |
| Subtotal (Model Outputs): | 1,233 (MBtu/year) | \$38,775 | 1,810 (MBtu/year) | \$58,548 | 31.9 % | 33.8 % |
| 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 |
| | 1,233 (MBtu/year) | \$38,775 | 1,810 (MBtu/year) | \$58,548 | 31.9 % | 33.8 % |



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)

WRECC_elec_rate.pdf ; Gas Rates_Monthly_2008.pdf ; Building Areas.pdf ; Building U - Values.pdf ; Energy Consumption Summary.pdf ; Energy Cost Budget.pdf ; Occupancy Schedule.pdf



I have provided the appropriate supporting documentation in the document upload section of LEED Online. Please refer to the above sheets.



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.

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: Holy Spirit Catholic Church Spirit 1

Credit: EA Credit 1: Optimize Energy Performance

Points Documented:

READY TO SAVE THIS TEMPLATE TO LEED-ONLINE?

Please enter your first name, last name and today's date below, followed by your LEED-Online Username and Password associated with the Project listed above to confirm submission of this template.

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