

Historic Courthouse Energy Audit
May 1, 2008
Executive Summary

The Historic Courthouse, built in the 1850's, has an energy usage of \$4.90 per sq. ft. per year. This is a very high for buildings in Fluvanna County and exceptionally high for a building that is only partially occupied on an irregular basis. The building is on the National Register of Historic Buildings and as such some building modifications are not recommended such as installing insulation in the walls. Changes in the operation of the building could yield considerable energy savings in the range of 20-25%.

Building systems could be shut off during unoccupied times and turned on prior to meetings in time to make the building comfortable. This would require that the building operator check meeting schedules and make necessary adjustments. Windows are seldom or never operated and could be caulked shut to prevent air infiltration. Since the bathrooms are seldom used, the water heater could be disconnected. Heating and cooling settings should be kept to seasonal minimums, 68°F in winter and 78°F in the summer. Occupants should be requested to turn off lights after meeting when issued keys for the building. Other maintenance issues are being cared for to reduce energy usage.

Submitted by: Curtis Putnam

Recommendations from Energy Audit of Historic Courthouse 5-30-2008

- Permanently seal all windows.
- Replace missing caulking.
- Replace broken or cracked windows.
- Repair or replace damaged shading devices (In process)
- Shut down building heating/cooling during periods of non-use.
- Instruct Building Operator (Custodian) to turn systems on prior to occupancy.
- Periodically check thermostats for proper settings.
- Tamper-proof thermostats where possible.
- Reduce thermostat settings to 55°F in unoccupied areas.
- Increase thermostat settings in summer for unoccupied areas.
- Disable water heater
- Replace interior bulbs with Compact Fluorescents if possible.
- Instruct occupants to turn off lights before leaving.
- Install occupancy sensors in basement.

2. ANNUAL ELECTRIC USE AND COST
Include Electrical Demand, if applicable

Building		Address		Year of Record					
115 Stone Courthouse		35 Stone Trail Street		From 2-17-1	To 2-28-1				
Account Number		Meter Number		Utility					
1144090006		0002115880		Dominion					
Maximum kW Demand W/O charge			Minimum Power Factor W/O charge						
			Building size (sqft) 2255						
1	2	3	4	5	6	7	8	9	10
Meter Read Date	To	KWh* Used	KWh/gross sq.ft. **	Annual (EUI) BTU/sqft (000)	Energy Cost	KW-KVA Demand	Fixed Service Cost	P.F. * and Demand Cost***	Total Cost
2-21	3-21	3659							250.93
3-21	4-23	4026							286.71
4-23	5-18	2971							219.44
5-18	6-22	5630							445.58
6-22	7-23	4564							345.95
7-23	8-22	3611							323.99
8-22	9-20	2789							251.49
9-20	10-22	3066							260.47
10-21	11-21	3382							286.75
11-21	12-19	4600							388.03
12-19	1-25	8716							730.20
1-25	2-21	5305							446.55
TOTAL		52319	23,721	79,186					4286.13

Comments:

Conversion: 3413 BTU/KWh
 *KW – Kilowatts, KVA – Kilo-Volt-ampere, KWH – Kilowatt hour, P.F. – Power Factor
 **Total annual KWh divided by the building's gross sq. ft.
 ***If demand and/or power factor are metered and billed, energy cost here.

