

Public Safety Center Energy Audit
May 8, 2008
Executive Summary

The Public Safety Center was built in 2003. It has an energy usage of \$2.15 per sq. ft. per year which is high for county buildings. The Public Safety Center is an all electric building. It is equipped with 5 heat pumps and an air exchange unit. The building is in operation 24 hours per day and houses a 911 center. The electrical system is backed up by an Uninterruptable Power Supply which conditions most of the power for the building. Lighting needs to remain on in the 911 center, hallways and ready room, 24/7. Savings of 10% could be achieved. Possible savings could be in the range of \$1,682 to \$2,522 over the next year.

The greatest opportunity for savings lies in installing occupancy sensors in the offices to prevent lighting the rooms when no one is present. Hall lighting could be reduced by 50% in the evening hours. Personnel should be instructed to turn these off after 6pm. Also personnel should be instructed to turn off the lights in the EOC room when not in use. Thermostat levels should be determined then set and fixed so that occupants can not adjust them at will. Some other options are available.

The Public Safety Center is a vital link in the chain of security for the county. Operations can not be curtailed or readjusted to reduce energy use. Occupant modifications to habits are the most readily available avenue to energy savings.

Submitted by: Curtis Putnam

Recommendations from Energy Audit of
Public Safety Building
May 8, 2008

- Install occupancy sensors in offices.
- Switch off 50% of hall lights in the evening.
- Post instructions to turn off lights in EOC room.
- Instruct personnel to close interior shading devices to reduce heat loss in winter and to reduce heat gain during summer.
- Place reminders where appropriate.
- Consider installing reflective film to reduce solar gain in summer.
- Set thermostats to heating/cooling minimums that retain comfort levels.
- Prevent thermostats from being adjusted from pre-set values.
- Replace air filters on a regular schedule.
- Clean air intakes
- Consider installing decentralized water heating.

2. ANNUAL ELECTRIC USE AND COST Include Electrical Demand, if applicable									
Building		Address		Year of Record					
Public Safety		718 Thomas Jefferson Pkwy		From 1-08 To 1-08					
Account Number		Meter Number		Utility					
070-0325-00		42696		Central Virginia Elec. Coop.					
Maximum kW Demand W/O charge			Minimum Power Factor W/O charge						
1	2	3	4	5	6	7	8	9	10
Meter Read Date From	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
1-31	2-27	30480				75			1942.95
2-27	3-29	25200				58			1607.95
3-29	5-1	25120				53			1469.09
5-1	5-30	20080				50			1297.55
5-30	6-30	23280				50			1378.95
6-30	8-3	26560				46			1395.02
8-3	9-6	30320				40			1529.69
9-6	9-28	18960				49			1293.66
9-28	11-1	28320				52			1650.81
11-01	12-04	31840				54			1700.74
12-4	1-1	30800				60			1733.26
1-1	1-28	25520				66			1602.46
TOTAL		316480	40.600	138,569					16,816.46

\$ 2.153 / Sq. Ft. / yr.

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.

