Fletcher Allen Hospital - Energy Action Plan (2014)

Purpose: To reduce operational cost savings, improve building comfort & performance, improve patient experience, be an effective steward of resources, and reduce our environmental impact.

Current: FY13 electricity cost: **$ 10,856,035** FY13 fuel cost: **$3,328,814**

FY13 kWh consumption: **39,169,200** FY13 ccf consumption: **2,384,766**

Goals: Reduce our overall energy load at the Medical Center Campus and Fanny Allen by 1,000,000 kWh and 150,000 ccf

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Action Plan FY14 & FY15		
1. Chiller Plant Optimization		
- Evaluate adding a 4th cooling tower cell		
- Evaluate cooling tower fans/VFD		
- Upgrade sequence of operations in the chilled water system		
- Upgrade chiller controls		
2. Boiler Plant Optimization		
- Replace combustion management controls		
- Replace steam traps		
- Tune dampers		
3. Building Envelope Improvements		
- Replace Baird Building Roof		
- Replace Shepardson North Roof		
- Replace Engineering Building Roof		
- Replace windows and doors where necessary and feasible		
- Replace MRI roof		
4. Lighting Upgrades		
- Upgrade interior lighting to LED technology		
- Upgrade exterior lighting to LED technology		
5. Lighting Controls / Energy Management System Upgrades		
- Evaluate opportunities for improved lighting controls		
- Evaluate and institute off-hours setbacks on HVAC systems		
6. Building Management System Upgrade		
- Evaluate and program system controls to maximize efficiencies		
7. Upgrade or optimize HVAC systems		
- Fletcher Building HVAC upgrade		
- McClure Building Upgrade		
- Remove Baird 1 & 2 electric heat		
- Upgrade the Baird Air System, including the addition of 2 ERU's		
- Evaluate night setbacks in the ACC building		
8. Operating Efficiencies		
- Coil cleaning		
- Filter changes		
- Evaluate UV technology for air systems		

Completed Efforts FY13 & FY14

Project Description	Date	Proj. Costs	Incentives	Savings	kWh Reduce	ccf Reduce
Burner Replacement-Boiler #5	Apr13	$ 120,313	$ 23,800	$ 35,800		93,241
McClure Air Handler Unit	Jun13	$ 630,000	$ 200,275	$ 118,009	835,977	
McClure Cog Belt Replacement	Sep13	$ 19,817	$ 10,582	$ 15,582	141,092	
Steam Trap Replacement	May14	$ 114,000		$ 48,318		125,844
MCHV LED Fixtures	Feb14	$ 40,000	$ 20,000	$ 28,000	79,000	
Roadway/Parking Lot LED Upgrade	Aug14	$ 104,977	$ 26,250	$ 25,431	44,796	
Hallway Lighting Upgrade		$ 20,000	$ 11,000	$ 3,118	27,557	
Baird AHU and Coil Upgrade	Jun14	$ 531,500	$ 30,000	$ 38,808	73,402	6107
Baird roof replacement (bulding env)	Jun14	$ 579,469	$ 3,350			
Totals:		$ 2,160,076	$ 325,257	$ 313,066	1,201,824	225,192

Total Energy Use per Square-Foot