X-3 | Date |

Data sheet for Spencer Lab

Steam Supply to Building (digital gage)		Mbtu/hr	M= 10^6
Calc		lbm/hr	(Btu/hr/h_{fg})

Steam Supply splits: (1) Heat water that circulates to terminal units (offices)
(2) Heat outside air for labs, halls, interior spaces

(1) U-tube heat exchanger (steam on shell side, water in tubes:

Water out		F	
Water retrn		F	
Pump flow	180 gpm		lbm/hr
Water ΔT		F	

Q= m c_p ΔT		Btu/hr
		Mbtu/hr

(2) Balance of steam supplied heats outside air
(3-story intakes on bldg near Academy St entrance)

An energy conservation metric is Btu/hr/ft^2

Spencer occupied space (3 stories + basement):

Total square ft = 58,000

Btu/hr/ft^2 | | Btu/ft^2 or | | kw/m^2

(This metric obviously depends on conditions. Smaller is better)