

Learning Activity #5 Energy Conservation Opportunities

Participant Directions

Read through the details discovered during an energy audit below. As a group, answer the questions that follow. After 15 minutes of individual group discussion, a representative from each group will be called upon to report the group's findings to the class.

Step 1. Read the scenario.

A 70,000 square foot civic center comprising two buildings (library and city hall) that are served by a common heating and cooling central plant was audited. Conditioned air is supplied in each building by separate VAV air handling units with VAV boxes with HW reheat coils in each zone. The total building EUI is 200 kBtu/sf/yr. Below is a list of observations made about facility operation from a review of the BAS:

BAS Points/Audit Notes

Chiller and boiler annual operation - Both pieces of equipment operate year round.

BAS Chilled Water Supply Temperature - 34 °F

BAS Pump Operation - BAS review shows that when Pump 1 enabled, both pumps are running

Boiler Outside Air Lockout Temperature - 110 °F

Occupied Heating Setpoint - 73 °F

Occupied Cooling Setpoint - 74 °F

Economizer Damper Position - Economizer 100% open at 90 °F outside air temperature

CO₂ Sensor reading - CO₂ sensors reading 300 ppm higher than hand-held CO₂ sensor

Stairwell daylighting - Stairwell and corridors are well lit with skylights, yet electric lighting was observed to remain "ON" 24/7.

Fundamentals of Energy Efficient Building Operations



Step 2. Answer the following questions.

1. What are the operational issues/problems for this facility?

a. _____

b. _____

c. _____

2. How is energy being wasted?

a. _____

b. _____

c. _____

3. What are the no-cost/low-cost opportunities for operational improvement for this facility?

a. _____

b. _____

c. _____
