

Energy Conservation and Building Management Guidelines

Responsibilities:

Every employee is expected to become an “energy saver” as well as an “energy consumer.”

The Division is committed to and responsible for a safe and healthy environment.

Staff is responsible for implementing the guidelines during the times they are present in Division occupied facilities.

The custodial staff is responsible for control of common areas, i.e. hallways, dining areas, etc.

Lead custodial staff is responsible for verification of the nighttime shutdown.

The Energy Specialists' provide regular (at least quarterly) program update reports to the Division Leadership Team.

The Energy Specialist performs routine audits of all facilities and communicates the audit results to the appropriate personnel (Deputy Superintendent for Operations & Support, Executive Directors and building Principals).

The Energy Specialist is responsible for either directly or indirectly making adjustments to the Organization's Energy Management System (EMS), including temperature settings and run times for Heating, Ventilation and Air Conditioning (HVAC) and other controlled equipment within the established guidelines.

The Energy Specialist provides monthly energy savings reports to facilities management detailing performance results.

The Division will communicate the importance and impact of the energy conservation program to its internal and external constituents.

To complement the Division's behavioral-based energy conservation program, the Division Leadership Team shall oversee a preventive maintenance and monitoring plan for its facilities and systems, including HVAC, building envelope, and moisture control.

General:

All employees shall ensure doors between conditioned space and non-conditioned space remain closed at all times (i.e. between hallways and gym).

Proper and thorough utilization of data loggers will be initiated and maintained by the energy specialist's to monitor relative humidity, temperature, and light levels throughout campus buildings to ensure compliance with guidelines.

Exhaust fans shall be turned off daily in areas that do not require their constant operation.

All office machines (copy machines, laminating equipment, etc.) shall be switched off each night and during unoccupied times. Fax machines and networked printers may remain on.

All office computers should be turned off each night. This includes the monitor, local printer, and speakers. Network (i.e. LAN) equipment is excluded.

All capable PC's should be programmed for the "energy saver" mode using the power management feature. If network constraints restrict this for the PC, ensure the monitor "sleeps" after one hour of inactivity.

Cooling Season Occupied Set Points¹:	74°F - 78°F
Unoccupied Set Point:	85°F
Heating Season Occupied Set Points¹:	68°F - 72°F
Unoccupied Set Point:	55°F

¹ Set points are in accordance with ASHRAE 55 "Thermal Conditions for Human Occupancy"

Air Conditioning Equipment:

Occupied temperature settings shall not be set below 74°F.

During unoccupied times, the air conditioning equipment shall be off or setback to 85°F.

Air conditioning start times will be adjusted (depending on weather) to ensure room comfort when occupancy begins.

All outside air dampers are closed during unoccupied times.

Ceiling fans shall be operated in all areas where present.

Relative humidity levels shall not exceed 60% for any 24 hour period.

Where cross-ventilation is available during periods of mild weather, shut down HVAC equipment and adjust the temperature with windows and doors. Cross-ventilation is defined as having windows and/or doors to the outside on each side of a room.

Ensure dry food storage areas are maintained within code requirements. Typically, this is 55F – 75F temperature and 35% - 60% relative humidity. Utilize loggers to verify.

Heating Equipment:

Occupied temperature settings shall NOT be set above 72°F.

The unoccupied temperature setting shall be 55°F (i.e. setback). This may be adjusted to a 60°F setting during extreme weather.

During the spring and fall when there is no threat of freezing, all steam and forced air heating systems should be switched off during unoccupied times. Hot water heating systems should be switched off using the appropriate loop pumps.

Ensure all domestic hot water systems are set no higher than 120°F or 140°F for cafeteria service (with dishwasher booster).

Ensure all domestic hot water re-circulating pumps are switched off during unoccupied times.

For heat pumps, ensure a 6 °F dead-band between heating and cooling modes.

Lighting:

All unnecessary lighting in unoccupied areas will be turned off. Staff should make certain that lights are turned off when leaving offices. Utilize natural lighting where appropriate.

All outside lighting shall be off during daylight hours.

Gymnasium lights should not be left on unless the gymnasium is being utilized.

Refrain from turning lights on unless definitely needed. Remember that lights not only consume electricity, but also give off heat that places an additional load on the air conditioning equipment and thereby increases the use of electricity necessary to cool the room.

Water:

Ensure all plumbing and/or intrusion (i.e. roof) leaks are reported and repaired immediately.

Grounds watering should only be done between 4am-10am. Do not water during the heat of the day, typically between 10am – 8pm.

When spray irrigating, ensure the water does not directly hit the facility.

Consider installing water sub-meters on irrigation and cooling tower supply lines to eliminate sewer charges.

The Division shall adopt, observe and implement these guidelines as provided. However, these guidelines are not intended to be all-inclusive, and they may be modified as necessary. These guidelines supersede all previous instructions related to energy conservation or facility management.



Quick Tips for Energy Conservation

- Turn off the lights when you leave the room
- Close the blinds to block sunlight
- Keep classroom doors closed
- Shut down computers at the end of each day
- Shut down Promethean Boards (projector and board) at the end of each day
- Unplug personal electronic appliances/ devices over weekends and holidays
- Report any leaks or malfunctioning equipment

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Energy Saving Suggestions for Custodians

1. When arriving in the morning, turn on only enough lights to do your morning duties.
2. Do not turn on classroom or office lights.
3. Cafeteria and gym lights should be left on only when areas are occupied.
4. Cafeteria staff should turn on kitchen lights when needed.
5. Staff office and workroom lights should be turned off when areas are unoccupied. As you pass these areas, please turn off the lights if unoccupied.
6. Turn your storage and mechanical room lights off when you are not using them.
7. If the hall lights are **not needed** in the morning when you arrive, leave them off. Turn them on only when the staff starts to arrive.
8. As you clean a room, turn the lights off after you finish cleaning.
9. All security lights should be turned off as soon as you arrive in the morning. (This is for those facilities that have security lights that are not on a timer.)

The custodians are **very** important to the success of our organization's energy management program. It is not my intention to create more work for you, but just to make you aware of some of the ways you can help. I promise your help will be greatly appreciated. I have personally seen many of these suggestions already being done which only proves what a good job many of you are already doing.

Thanks,

Energy Specialist

END-OF-DAY SHUTDOWN CHECKLIST

BUILDING: _____ DATE: _____

Between 1:00 - 2:00 p.m.:

Turn OFF cafeteria and/or staff break-room lights Yes _____ No _____

Turn OFF all cafeteria and/or staff break-room equipment Yes _____ No _____

Between 3:00 - 4:00 p.m.:

Turn OFF all auditorium lights Yes _____ No _____

Turn OFF gymnasium lights Yes _____ No _____

Check all classroom/office lights Yes _____ No _____

Ceiling fans OFF Yes _____ No _____

Running water in urinals OFF Yes _____ No _____

All unnecessary equipment OFF and UNPLUGGED Yes _____ No _____

All doors to bathrooms PROPPED OPEN Yes _____ No _____

HVAC system to guidelines "set back" temperature (85 in cooling season, 55° to 60° in heating season) Yes _____ No _____

All lights turned OFF Yes _____ No _____

Unnecessary kitchen equipment turned OFF Yes _____ No _____

Check security lighting time clocks Yes _____ No _____

Air conditioners turned OFF Yes _____ No _____

Office machines (Computers, peripherals & other office machines) turned OFF Yes _____ No _____

Lights OFF in unoccupied areas Yes _____ No _____

Performed by: _____

(The above is not inclusive . . . must be adapted to local conditions)

WEEKEND SHUTDOWN CHECKLIST*

BUILDING: _____ DATE: _____

Between 1:00 - 2:00 p.m.:

Turn OFF cafeteria and/or staff break-room lights Yes _____ No _____

Turn OFF all cafeteria and/or staff break-room equipment Yes _____ No _____

Between 3:00 - 4:00 p.m.:

Turn OFF all auditorium lights Yes _____ No _____

Turn OFF gymnasium lights Yes _____ No _____

Check all classroom/office lights Yes _____ No _____

Ceiling fans OFF Yes _____ No _____

Running water in urinals OFF Yes _____ No _____

All unnecessary equipment OFF and UNPLUGGED Yes _____ No _____

All doors to bathrooms PROPPED OPEN Yes _____ No _____

All cabinets with access to plumbing should be left OPEN throughout building Yes _____ No _____

HVAC system to guidelines "set back" temperature (85 in cooling season, 55° to 60° in heating season) Yes _____ No _____

All lights turned OFF Yes _____ No _____

Unnecessary kitchen equipment turned OFF Yes _____ No _____

Check security lighting (OFF in day time) Yes _____ No _____

Check security lighting time clocks Yes _____ No _____

Report any commodes which run water constantly Yes _____ No _____

Domestic hot water circulating pumps turned OFF Yes _____ No _____

Air conditioners turned OFF Yes _____ No _____

Office machines (Computers, peripherals & other office machines) turned OFF Yes _____ No _____

Lights OFF in unoccupied areas Yes _____ No _____

*Can be used on Thanksgiving, Easter & other long weekend holidays.

Performed by: _____

(The above is not inclusive . . . must be adapted to local conditions.)

ENERGY MYTHS AND FACTS

Myth: The room will get cooler faster if the thermostat is set lower (50 to 60 degrees).

Fact: The room will cool down just as fast if the thermostat is set on 72 degrees. If the thermostat is set too low, the unit will freeze up and will not cool at all.

Myth: Lights should be left on when leaving the room for a short period of time.

Fact: It is more economical to turn incandescent and fluorescent lights off each time you leave the room.

Myth: Closing window-shading devices has no direct effect on heat loss or gain within a building.

Fact: Closing window shading devices (curtains, blinds) at the end of each day will help in reducing night heat loss in the winter and solar heat gain in the summer. Closing window-shading devices should be a part of the shutdown each day.

Myth: Computers must be kept cool or they will fail.

Fact: The following information comes from computer manufacturers' spec sheets. For example, these computers are designed to function safely in these temperature ranges:

Dell

ON: 50° to 95°F

OFF: -40° to 149°F

Apple

ON: 50° to 95°F

OFF: -40° to 116°F

Myth: If the temperature is set back in a room or building at night, it takes more energy to return the room or building to its daytime temperature setting.

Fact: Night setback of temperature is always economically feasible as it requires less energy to recover the daytime setting than to maintain a constant 24 hour temperature setting.

Myth: Turning off air conditioner compressors will cause damage to the compressor due to the fact that the oil will settle and when the unit is restarted, it will have excess friction and eventually ruin the unit.

Fact: Compressors are designed to be turned off. For example, the air conditioner compressor in a residential unit is turned off for an extensive period of time over the wintertime with no preventive maintenance and with no risk of damage when it is restarted in the spring