



Date: December 12, 2016
To: Oklahoma State University Faculty, Staff and Students
From: Mickey Fuller, Senior Director of Facility Operation / Energy Manger
Subject: Energy Guidelines - 2017

Good Morning,

President Shirley implemented that the Vice-Presidents and their Divisions and Departments get together to come up with "Operational Efficiencies" that will reduce costs without sacrificing performance. The Construction & Maintenance Team met as required and started "brainstorming" ideas that could not only save money, but could also extend the life of the aging infrastructure here on campus.

As discussions advanced, a 2008 version of the Energy Guidelines were discovered. I know that it is of no surprise that not only did it need to be updated, but there were many campus related items that needed to be updated as well.

As we enter yet another year of decreasing budget concerns; please remember that a dollar saved on utilities is not only better for the bottom line associated to the campus as a whole, it's also less stress on the infrastructure of the campus.

Thank you,

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ENERGY GUIDELINES (Energy Conservation and Building Management)

Mission: To promote a safe, healthy learning environment while complementing the energy management program.

Date: December 5, 2016

PROCEDURE:

1. This Energy Guideline is in accordance with the Oklahoma State University Policy and Procedures Energy Management Policy, 1-0520 for the Oklahoma State University – Oklahoma City campus.

RESPONSIBILITIES:

2. As stated in policy 1-0520.2.03.B; all personnel are to make a positive contribution to maximize energy conservation and produce real energy savings. On the Oklahoma State University – Oklahoma City campus the following guidelines should be followed.
 - a. The Energy Manager is responsible for suggesting adjustments to the campus Energy Management System (EMS), including temperature settings and run times for HVAC and other controlled equipment.
 - b. The Maintenance Department is committed to and responsible for maintenance of the learning environment.
 - c. Faculty and Staff members are responsible for implementing the guidelines during the time within their classrooms and respective offices.
 - d. Selected campus building administrators are responsible for the total energy usage of their buildings.
 - e. The Energy Manager performs routine audits of all facilities and communicate the audit results to appropriate personnel.
 - f. The Maintenance Department shall review and adhere to the preventive maintenance and monitoring for its facilities and systems; including HVAC, building envelope, and moisture management.
 - g. Security Officers are typically the last persons to leave a building in the evening, they are responsible for verification of the nighttime shutdown.

GENERAL:

3. Oklahoma State University – Oklahoma City comfort systems are monitored and scheduled through Johnson Controls Energy Management Systems. Electrical consumption from computer or other devices should be programmed as available or managed to achieve energy savings.



- a. Classroom doors shall remain **closed** when HVAC is operating. Ensure doors between conditioned space and non-conditioned space remain closed at all times.
- b. Building windows shall remain closed at all times, especially when HVAC is operating.
- c. Proper and thorough utilization of data loggers will be initiated and maintained to monitor relative humidity, temperature, and light levels throughout the campus's buildings to ensure compliance with these guidelines.
- d. Non-critical or non-essential exhaust fans should be turned **off** every day and during unoccupied hours.
- e. All office machines; copy machines, etc. shall be switched **off** each night and during unoccupied times. Fax machines should remain on.
- f. All computers should be turned **off** each night. This includes the monitor, local printer, and speakers. Network or sensitive equipment is excluded.
- g. 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 10-minutes of inactivity.

PERSONAL DEVICES

4. The following items shall be **submitted for approval** to the Director of Safety & Security and the Senior Director of Facility Operations **prior** to use. All items shall be UL listed and grounded. All approved items **shall be switched off by the individual who submitted the request** each night and prior to leaving during unoccupied times throughout the year. Any device found in operation **without prior approval** will be removed from the area.
 - a. **Personal Space Heaters.**
 - *Space Heaters will also be tested and must pass a tilt / turnover test; no exceptions.*
 - b. **Personal Devices; Fans, Lamps, Scentsy, etc.**
 - c. **Personal Appliances; Microwaves, Refrigerators, etc.**
 - *Refrigerators shall be properly defrosted, emptied and unplugged during the Holiday / New Year Break.*
 - *Departmental Refrigerators shall be properly defrosted, emptied and unplugged during the Holiday / New Year Break.*

AIR CONDITIONING EQUIPMENT

1. Occupied temperature settings **shall NOT be set below 72°F** unless that area is identified as a critical environment that requires cooling below 72°F.
2. The unoccupied time shall begin when the students, faculty or staff leave an area.
3. During unoccupied times, the air conditioning equipment shall be **off**. It is anticipated that the temperature of the classroom will be maintained long enough to afford comfort for the period faculty remains in the classroom after the students have left.
4. Air conditioning start times may be adjusted (depending on weather) to ensure student and faculty comfort when classes begin.
5. Ensure outside air dampers are closed during unoccupied times.
6. Ceiling fans should be operated in all areas that have them.
7. Relative humidity levels shall not exceed 60% for any 24 hour period.



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8. Air conditioning should not be utilized in classrooms during the summer sessions unless the classrooms are being used for instruction or extracurricular activities. Air conditioning may be used by exception only or in those campus buildings that are involved in team-cleaning.
9. Ensure dry food storage areas are maintained within code requirements. Typically, this is 55°F-75°F temperature and 35%-60% Relative Humidity.

Cooling Season Occupied Set Points¹:	72°F - 76°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"

HEATING EQUIPMENT

1. Occupied temperature settings *shall NOT be above 72°F* unless it is a critically controlled environment.
2. The unoccupied time shall begin when the students, faculty or staff leave an area.
3. The unoccupied temperature setting shall be 55°F (i.e. setback). This may be adjusted to a 60°F setting during extreme weather (With exception to some labs, animal areas...).
4. During the spring and fall when there is no threat of freezing, boilers and circulating loop pumps will be scheduled to come on when the outside air temperature reaches 55 degrees to maintain the unoccupied set point.
5. Ensure all domestic hot water systems are set no higher than 120°F or 140°F for cafeteria service (with dishwasher booster).
6. Ensure all domestic hot water re-circulating pumps are switched off during unoccupied times.
7. In applicable areas all heating and cooling units shall have a 6 degree dead band between heating and cooling modes.

LIGHTING

1. All unnecessary lighting in unoccupied areas will be turned **off**. Faculty and students should make certain that lights are turned off when leaving an empty classroom. Utilize natural lighting where appropriate. "Lights off in unoccupied areas" is the theme to spread around campus.
2. All outside lighting shall be **off** during daylight hours unless required for a university sponsored event.
3. All lights will be turned **off** when students, faculty, and staff leave the area. Housekeeping and Security Officers will turn on lights only in the areas in which they are working.
4. Refrain from turning lights on unless 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.
5. Refrain from use of halogen lighting in personal lamps. These lamps must pass a safety inspection.

WATER

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



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2. If possible, grounds watering should only be done between 4am-10am.
3. Try not to water during the heat of the day, typically between 10am – 8pm.
4. When spray irrigating, ensure the water does not directly hit the building.
5. If possible, ensure water sub-meters are installed on irrigation and cooling tower supply lines to eliminate sewer charges.

Disclaimer: The University System shall adopt, observe and implement these guidelines as provided. However, these guidelines are not intended to be all-inclusive, and they may be modified for local conditions. These guidelines supersede all previous instructions related to energy conservation or building management.