



# FLORIDA STATE UNIVERSITY

## Program Guidelines

### (Energy Conservation and Building Management)

#### **Responsibilities:**

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

Each FSU employee is responsible for implementing the guidelines for spaces they control that are not equipped with automatic control systems. Such spaces include classrooms, offices, and common areas.

The Energy Specialists will train building occupants in the identification of practices or techniques to change behaviors. They will offer coaching assistance to reinforce any changes. The behavioral changes are intended to result in improved building performance (temperature stability, humidity, etc) as well as the conservation of energy.

The Energy Specialists will work with campus leadership to identify methods to verify nighttime shutdown in buildings that are a part of a setback or shutdown program based on occupancy. It is understood that the practice or method could vary by building depending upon the primary user.

It is acknowledged that most buildings at FSU do not have a facility administrator that is responsible for the total energy usage of his/her facility. It is understood that each FSU team member has a responsibility to participate in campus best management practices. The energy specialist and FSU leadership will strive to identify key personnel in each building that can assist in the development and sharing of building specific practices.

The Energy Specialists shall share regular key performance metrics with building occupants.

The Energy Specialist performs routine audits of all facilities and communicates key performance indicators and recommendations for changes in practices to building occupants. The Energy Specialist provides monthly energy savings reports to the management team detailing performance results. In addition, he/she will provide (at least semi-annual) program update reports to the University executive team.

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

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

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

To complement the organization's behavioral-based energy conservation program, the University shall modify its preventive maintenance and monitoring plan for its facilities and systems to support the reliable operation of systems, including HVAC, building envelope, and moisture control.

Facilities Design & Construction shall grant timely access to all capital project information for projects that are upgrading systems (such as lighting, HVAC, or other energy consuming equipment), changing occupancy type, or changing building operational schedule to the Energy Specialists. Cenergistic and FSU leadership shall develop a process to create a checkpoint in CPPM, the campus project management software, to reinforce the review process.

The Energy Specialist is responsible to ensure that all proposed changes conform with safety standards set by EH&S.

The Energy Specialist shall comply with all applicable policies, including the Lab Work Permit, when working in research spaces. In addition, the Energy Specialist may be allowed to directly or indirectly make adjustments to laboratory air change rates. No changes are allowed without the prior development of a Laboratory Research Standard which involves EH&S, researchers, and facilities.

When a space is identified that has a different use than indicated in the AiM space module, the Energy Specialist is responsible for directly or indirectly making adjustments appropriate for the space use. The Energy Specialist, in conjunction with the AiM Space Manager will work with the host department to incorporate the correct space type in the AiM Space System.

The Energy Specialists and FSU leadership shall establish a process to analyze requests for variances to the program guidelines, including setpoint concerns. To the largest extent, the variance process will utilize building performance data, equipment documentation, and/or other relevant information to determine whether or not a variance is appropriate. It is likely that most of these types of requests will be related to special spaces not identified during the process of creating the program guidelines.

### **General:**

Instruction room doors shall remain closed when HVAC is operating. Ensure doors between conditioned space and non-conditioned space remain closed at all times (i.e. between hallways and gym or pool area).

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

The Energy Specialist shall review the use of exhaust fans to determine which ones can be turned off during unoccupied hours without having a negative impact on building pressurization. He/she shall work with FSU leadership to establish an effective exhaust fan management plan.

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.

The Energy Specialist shall work with all building occupants to determine an appropriate computer management plan. Where possible, without having a negative impact on reliability or equipment life, 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 a 30 minutes of inactivity.

<b>Cooling Season Occupied Set Points<sup>1</sup>:</b>	<b>74°F - 78°F</b>
<b>Unoccupied Set Point:</b>	<b>85°F</b>
<b>Heating Season Occupied Set Points<sup>1</sup>:</b>	<b>68°F - 70°F</b>
<b>Unoccupied Set Point:</b>	<b>55°F</b>

<sup>1</sup> Set points are in accordance with ASHRAE 55 "Thermal Conditions for Human Occupancy"

Tighter temperature regulation or different temperature ranges may be required for some buildings and/or some rooms in those buildings. Since many high-end instrument vendors require tighter specifications for the equipment in order to not invalidate the warranties, the Energy Specialist shall evaluate equipment needs prior to making set point changes.

Space heaters, portable air conditioners, and window air conditioners shall be prohibited unless the Energy Specialist deems that the units are required to maintain temperatures within the campus occupied set points.

As it is not practical to reach out to every building occupant on campus to assess the impacts of a significant change in ambient temperature, it is agreed that each area will be provided one week of advance notification prior to the change. In addition, the Energy Specialist shall communicate with the

occupants post change to ensure that there are no significant negative impacts to productivity or equipment performance.

## **Air Conditioning Equipment**

Occupied temperature settings shall *NOT be set below 74°F*.

During unoccupied times, the air conditioning equipment shall be **off**. For classroom buildings, the unoccupied period begins after the last class of the day when the students leave the area. It is anticipated that the temperature of the instruction room will be maintained long enough to afford comfort for the period of time the faculty remains in the instruction room after the students have left.

Many buildings on campus are engaged in a variety of activities, including research. Operating hours vary as well as the mechanical systems. For non-classroom buildings, FSU agrees to work with the Energy Specialists to determine which buildings have an opportunity for a setback program during unoccupied times. Some of the complex areas will require additional approvals from EH&S and review by the department and facilities.

The Energy Specialist is responsible for either directly or indirectly modifying building programs and associated equipment to automate the shutdown of key building systems during unoccupied periods.

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

Ensure outside air dampers, with the exception of emergency dampers that should not be over-ridden, are closed during unoccupied times.

Ceiling fans in air conditioned areas should be operated during occupied times.

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

In all areas which have evaporative coolers such as shops, kitchens, gymnasiums, the doors leading to halls which have air conditioned instruction rooms or dining areas should be kept closed as much as possible.

Ensure dry food storage areas are maintained within code requirements. Typically, this is 55F-75F temperature and 35-60% Relative Humidity. Use loggers to verify.

## **Heating Equipment**

Occupied temperature settings shall NOT be above 72°F.

For research areas, the Energy Specialist should take in to account that constant temperature (and humidity) is more important than the set point.

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

The unoccupied time shall begin when the students leave an area.

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, except in buildings where reheat is needed for humidity control. 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.

Heating fuel tank levels should be accurately measured and recorded by at least on the following intervals: 1) recurring scheduled monthly date 2) immediately before new delivery, 3) immediately after delivery

## **Lighting**

All unnecessary lighting in unoccupied areas will be turned **off**. Faculty should make certain that lights are turned off when leaving the instruction room or office when empty. Utilize natural lighting where appropriate.

All outside lighting shall be **off** during daylight hours.

Sports lighting should not be left on unless the area is being utilized.

All lights will be turned **off** when students and staff leave for the day.

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.

Verify installation of water sub-meters on irrigation and process water supply lines to eliminate sewer charges.

The Energy Specialist is responsible for either directly or indirectly modifying irrigation system programs and associated irrigation equipment to make more efficient use of water.

Disclaimer: The organization 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 facility management.