



**FLORIDA STATE UNIVERSITY**  
Utilities and Engineering Services

# FSU ENERGY CONSERVATION PROGRAM

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## II. DEFINITIONS AND ACRONYMS

EUI	Energy Usage per Square Foot (kBtu/sqft)
ASHRAE	American Society for Heating, Refrigeration, and Air-Conditioning Engineers
ITS	Information Technology Systems
ROI	Straight Line Return on Investment
SME	Subject Matter Expert
BAS	Building Automation System
EH&S	Environmental Health & Safety
FLO	Facilities Liaison Officer

## III. PURPOSE

For over 30 years, Florida State University has a leader in energy conservation. As a growing research campus and changes in the energy code, most newer buildings consume more energy per square foot (EUI) than older campus buildings. The University has reduced consumption with the changes in the campus building portfolio from 120 kBtu to 95 kBtu since our baseline year of FY 2007-08 or 20%..

The primary focus of the campus energy conservation program is as follows:

- Building schedules matched to occupancy (both concentration and work schedules)
- Implementation of energy projects to further decrease consumption
- Encourage campus partners to be responsible to minimize their personal impact on energy consumption.

The energy team will utilize various techniques to measure building performance, investigate anomalies, and develop energy projects and conservation techniques.

The University will deploy data loggers or utilize BAS dataloggers to verify building conditions. In addition, the Energy Operations Engineers will work with campus FLO representatives and other building or unit leaders to optimize building schedules.

## IV. SCOPE

The program coverage includes all FSU owned properties in Tallahassee as well as The Ringling and Panama City campuses.

## V. PROGRAM MANAGEMENT

This program is managed the Florida State University Energy Team which is a part of the Utilities operation.

## VI. KEY PERSONNEL AND RESPONSIBILITIES

### A. Energy Team

1. Energy Program Director: The Energy Program Director will develop, refine and manage the campus energy conservation program including the leading of engineering and operational resources
2. Energy Operations Engineers: The Energy Operation Engineers will work with customers to refine building schedules, develop and implement energy conservation projects to reduce consumption, and track usage of assigned buildings.

3. Energy Engineer: Provide expert level ROI review of proposed energy projects. Function as a SME for projects targeted towards our most energy intensive spaces, primarily research labs.

B. Engineering Services

1. Design: The campus engineering shall provide engineering services to support the design or design review process as it relates to energy projects. The design will include both construction drawings and a detailed narrative defining the project scope.
2. External Resources: When a project is too large to complete with internal resources, an external engineer from the minor services panel may be selected.

C. ITS

Data Visualization: Provide visualization of building energy usage from the Siemens Apogee/Desigo BAS system.

## VII. ENERGY REDUCTION PRINCIPLES

A. HVAC

1. Scheduling: Systems will be scheduled to maintain campus temperature setpoints during occupied hours. Systems will set back during non-occupied hours but will maintain humidity control in the space. For low occupancy during occupied hours, the system will adjust based on the amount of people in the space. For after hours AC requests, use the AC Request form located on the main Facilities website.
2. Setpoints: Each building has its own personality, but in general, the campus buildings will be maintained in a range of 72°-78° degrees F during the cooling season and 68°-72° during the heating season. Each building will operate during occupied hours in this range, but the exact setting for the building is based on the design. During unoccupied hours, the setpoints will be adjusted to protect the building, not comfort.
3. Special Spaces: The settings in special spaces are individually determined based on needs. Generally, special spaces include laboratories or server rooms.
4. Doors: Classroom and laboratory doors must remain closed to ensure that the system is able to perform according to the design.
5. Space Heaters: Space heaters or additional cooling equipment are not permitted unless approved by the Energy Program Director to compensate for building systems that cannot maintain setpoint and/or other issues identified by EH&S.
6. Reporting: Each person has the responsibility to report HVAC systems that are not operating within the setpoints during occupied hours or are running during un-occupied periods to the Service Center at 644-2424. A work order will be generated to investigate. Each person should also report any instance of condensation in their areas.

B. Lighting

1. Scheduling: Lighting systems will be scheduled or manually turned off when the area is not in use (with the exception of emergency lighting). The principle applies to both indoor and outdoor lighting. Occupants are encouraged to turn lights off in their areas during normal occupied hours when not in use.

2. Reporting: Each person has the responsibility to report lighting that is operating when unneeded to the Service Center at 644-2424. A work order will be generated to investigate.

C. Irrigation Water

3. Irrigation Scheduling: Sprinkler systems should be operating during the day. Automatic systems should be programmed to minimize the use of irrigation when raining. In addition, the systems must be installed to irrigate only the vegetation and not impervious structures or buildings. All irrigation systems should minimize water runoff.
4. New Irrigation systems: Each new irrigation system shall be reviewed by the Energy Program Director prior to installation to ensure that systems are connected to irrigation meters to avoid sewer charges.
5. Reporting: Each person has the responsibility to report irrigation systems that are running during the day or that are not working properly to the Service Center at 644-2424. A work order will be generated to investigate.

D. Water

1. Reporting: Each person has the responsibility to report leaking pipes or fixtures to the Service Center at 644-2424. A work order will be generated to investigate.

E. Roof, Condensation, and Envelope Leaks

1. Reporting: Each person has the responsibility to report roof, window, or wall leaks to the Service Center at 644-2424. A work order will be generated to investigate.

## VIII. VARIANCE REQUEST PROCESS

The Variance Request process allows departments to request a deviation from standard settings, schedule changes not permitted by the current energy program, or to seek approval for reclassification of a general space into a special space.

Once the request is completed, it will be reviewed by the Energy Team to clarify the request and then submitted to the President's Executive Committee for review.

## IX. HUMIDITY & IAQ CONTROL PROGRAM

A. Humidity

1. Building humidity should remain below 65% in all campus buildings regardless of whether the status is occupied or un-occupied. Dehumidification equipment may be provided in cases where the building HVAC system is unable to maintain conditions.
2. Extended datalogging when system performance is in question.

B. Indoor Air Quality (IAQ)

1. Exterior Windows – One of the main contributors to building IAQ conditions such as high humidity and mold is related to the unauthorized opening of windows. All campus buildings are designed with the intention that windows should remain closed. When a window is not

considered a safety exit by the Building Code Authority, it shall be secured shut with no means of opening.

2. Doors – All exterior doors should remain closed with no use of door props, stops, or other means of preventing a complete closure. Interior doors used for air balancing, such as in a laboratory space, must also remain closed.

## X. APPENDIXES

- A. ASHRAE: <http://ashrae.org>