

Standard Operating Efficiency Procedures

Reference Management Memo 14-07

General

State departments shall follow the Standard Operating Efficiency Procedures described below, to the extent that funding is available and they do not conflict with health and safety requirements or operations necessary for a department to fulfill its mission and responsibilities.

Department directors or their designees shall designate energy coordinators for each location their department occupies. Energy coordinators are responsible for ensuring that the Standard Operating Efficiency Procedures are carried out, except as noted above.

Throughout this document, the term “facility manager” is used. Depending on the structure of the individual facility, the “facility manager” may be the building operator, property manager, or another employee. Other titles may include staff services manager, business services assistant, office building manager, real estate officer, associate business management analyst and associate governmental program analyst. State agencies are responsible for identifying the appropriate party or designee to implement all procedures indicated.

- At the end of the workday or when not needed, employees shall turn off all lights and equipment in their work space, except for equipment designated as 24/7 or for which there is a specific need for after-hours operations (e.g., email servers, fax machines or other essential equipment). Facility managers are encouraged to install reminder labels.
 - If occupancy controls are not used in common areas, facility managers or appropriate designees shall turn off all equipment and non-emergency lighting at the end of the workday or when not needed.
 - Information Technology managers or appropriate designees shall enable the automatic power-down or “Energy Saver” feature on all computers, copiers, printers, and other electrical equipment, consistent with IT Policy Letter 10-09 and subsection 12 of the State Administrative Manual Section 4819.31.
 - When purchasing equipment, state agencies shall purchase the most energy efficient ENERGY STAR rated equipment that is practical, considering Environmentally Preferable Purchasing principles.
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Hours of Operation

Typically, state-owned and leased buildings will be operational from 6:00 AM through 6:00 PM Monday through Friday (excluding facilities that are designated as 24/7 or continuously operational). All non-essential lighting and other electrical loads shall be minimized outside of normal building hours. State agencies are expected to make a reasonable determination as to what functions must continue outside of these hours.

Building Heating and Cooling Systems

- Facility managers shall allow building temperatures to fluctuate within an acceptable range to avoid wasteful over-control patterns. This range may vary with each building's control system; the target range is plus or minus two degrees Fahrenheit from the temperature set point, for a total fluctuation of four degrees Fahrenheit. The temperature set point should be no higher than 68°F in winter and no lower than 78°F in summer, unless such a temperature in a particular job or occupation may expose employees to a health and safety risk. Simultaneous or alternate heating and cooling operations to maintain exact temperature in work areas shall be avoided.
 - Whenever practical, facility managers shall operate and adjust controls to get optimum advantage from outside temperatures for meeting cooling demand (e.g., using outside air economizers and night flush cycles). Avoid operating chillers and compressors when possible. All "pre-cooling" options for buildings shall be employed.
 - State employees are prohibited from using personal heaters without the express written consent of the facility manager or an approved reasonable accommodation request.
 - State employee shall keep windows and doors closed to prevent loss of heated or cooled air, unless the facility manager has indicated that the building is specifically designed for natural ventilation efficiency.
 - State employees in state-occupied locations shall adjust window blinds or coverings, if installed, to prevent solar heat gain during summer and prevent heat loss in winter.
 - Facility managers shall order data center operators to maintain ambient temperature settings at manufacturer specification maximums.
 - Facility managers shall not set domestic hot water temperatures above 105° F unless this conflicts with a code requirement for the facility. Facility managers and state employees in state-occupied locations shall take every opportunity to minimize hot water usage.
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Year-Round Maintenance

- Facility managers shall inspect and maintain ducts, air filters, and related hardware to maximize effectiveness at the lowest acceptable power use.
 - Facility managers shall tune up all forced and induced draft gas and oil-fired boilers at least twice annually. If there are automated combustion controls, verification of combustion efficiency shall be conducted at least twice annually.
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Lighting

- State employees in state-occupied locations shall turn off all lights in unoccupied rooms. Facility managers shall install occupancy sensors whenever practical. Occupancy sensors shall be selected to be appropriate to the room geometry and usage patterns of the space. When areas served exceed 10,000 square feet, occupancy sensors should undergo quality assurance testing included in building systems that are commissionedⁱ.
 - Facility managers shall reduce lamps and/or luminaires in number and/or wattage to provide the lighting level appropriate for the activities of the work area affected.
 - Facility managers shall replace any incandescent lighting with higher efficiency sources, such as fluorescent, high intensity discharge (HID), light-emitting diode (LED), or induction lighting whenever replacement is required.
 - For fluorescent lights, facility managers shall have a plan by December 2015 to replace any older “core and coil” magnetic ballasts with newer energy-efficient electronic ballasts.
 - Facility managers shall install some form of daylight controls in day-lit zones (near windows and under skylights). When such day-lit areas exceed 10,000 square feet, or are part of new construction or a major renovation, these day lighting controls (e.g., sensors that adjust artificial lighting in response to the available natural light) should be included in building systems that are commissionedⁱ.
 - Where practical, facility managers shall consider the significant energy savings made possible by the selection of lower level general ambient lighting with small-area, high-efficiency fluorescent or LED task lighting for higher level task lighting requirements – an approach particularly appropriate for work stations and computer use areas.
 - When painting or renovating, use light colored ceiling, wall, floor and desk surfaces throughout building to boost overall ambient illumination levels (dark surfaces absorb light). Keep lighting fixtures clean to maintain lighting levels.
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ⁱ Commissioning is a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria

**Lighting
(cont.)**

- Facility managers shall have custodial personnel turn lights on only as needed and turn lights off when their work is done. Where practical, have custodial personnel work in teams to complete cleaning on each floor of multi-story buildings.
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Plug Loads

- State employees shall not plug in any personal devices, including but not limited to coffee pots, microwaves, refrigerators, and heaters, in workspaces. Exception: the following may be allowed if the facility manager determines that the circuit can safely accommodate the electrical load:
 - Cell phones and tablets;
 - Task lighting that is UL approved and does not use incandescent or halogen bulbs.
 - Facility managers shall work with employees and vendors to ensure that all equipment in employee kitchens, lunch rooms, and other shared spaces complies with the following:
 - Additions of new equipment must have a current ENERGY STAR rating, when available;
 - As practical, strive to replace refrigerators and equipment manufactured prior to 2000 with more efficient models;
 - Refrigerated beverage vending machines and hot/cold water dispensers that are purchased, leased, or supplied by an outside vendor must be ENERGY STAR rated to the current version, when available;
 - All vending machines with non-perishable items must comply with one of the following:
 - Have built-in low power modes for lighting and refrigeration, as applicable and described in ENERGY STAR program requirements for refrigerated beverage machines, [version 3.0, section 3\(B\)](#); or
 - The facility manager has installed an after-market occupancy sensor.
 - Coffee makers must shut off automatically;
 - Equipment must be regularly cleaned and maintained to optimize efficiency.
 - Facility managers shall install power strips with timer settings and/or inexpensive, energy-efficient timers to turn off equipment during non-work hours (including paper shredders, lighted ambient snack vending machines, and hot/cold water dispensers). In implementation of this section, facility managers shall follow any applicable procurement guidelines established for such equipment.
 - Department directors or their designees shall distribute an annual email to educate all employees about the importance of minimizing electrical plug loads and to review relevant state policies and guidelines.
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**Demand
Response**

Facility managers should be proactive in contacting their local utility to research the various [demand response programs](#) and select appropriate options, when applicable. When an electrical emergency is predicted for the day, the facility manager shall alert state employees and building operations in anticipation of the emergency, and shall implement curtailment measures immediately upon or before the emergency declaration.

In facilities with appropriate energy management systems installed, automated demand response should be considered.
