

MANAGEMENT MEMO

NUMBER:

99-13

SUBJECT:

DATE ISSUED::

9/13/99

ENERGY MANAGEMENT IN STATE FACILITIES

EXPIRES:

UNTIL RESCINDED

REFERENCES:

ISSUING AGENCY:

SUPERSEDES MANAGEMENT MEMO 98-05

DEPARTMENT OF GENERAL SERVICES

In order to promote better energy management in state facilities, all state agencies and departments will follow this energy conservation policy in all buildings they own, control, or operate.

It should be understood that special service needs, such as those found in medical facilities; or special equipment, such as mainframe computers; or regulatory requirements; may require exemptions to these general guidelines. Even in such situations, conscientious management practices can still use energy productively and efficiently.

BUILDING HEATING and COOLING SYSTEMS:

1. Interior air shall not be heated above 70°F nor cooled below 78°F.
 - Building temperatures should be allowed to fluctuate within an acceptable range, avoiding wasteful over-control patterns. Simultaneous or alternate heating and cooling operations to maintain an exact temperature in work areas should be avoided.
 - Windows and doors will be kept closed to prevent loss of conditioned air.
 - Wherever possible, building operators should install and/or adjust controls to get optimum advantage from outside temperatures (i.e., use "economizers").
2. Personnel responsible for building energy use shall take the following steps to efficiently use gas, electricity or other energy to meet the heating and cooling needs of their facility:
 - Inspect and maintain ducts, air filters and related hardware to maximize effectiveness at the lowest acceptable power use.
 - Shut off all air-conditioning equipment and fans on weekends, holidays and for varying periods each night, except for electronic data processing installations and other areas that are critical for scientific/medical reasons or that require 24-hour operation. Minimum necessary ventilation shall be maintained during working hours.
 - Prohibit the use of portable electric heaters and fans in state facilities without the express permission of the person responsible for energy use in the building, facility or campus.
 - 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.

- Service heating, ventilation and air-conditioning equipment on a preventive maintenance schedule rather than on a repair-as-needed basis.
3. Domestic hot water temperatures should not be set above 105° F. Building operators and tenants should take every opportunity to reduce hot water usage to the lowest acceptable level. *
 4. Building operators and tenants should use daylight for lighting and should use existing draperies, blinds or exterior shading devices to regulate heat loss or gain.

* Facility managers concerned with the possibility of problems associated with Legionella bacteria (i.e., "Legionnaires' Disease") in their water systems should investigate maintenance and water treatment options to control this bacteria. Please note that simply elevating hot water temperatures alone will not control Legionella unless system temperatures are maintained at 132° F or higher – a temperature that creates a high danger of scalding.

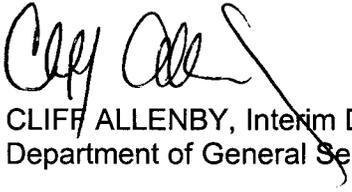
LIGHTING:

1. All lights shall be turned off in unoccupied rooms after the workday or when otherwise not in use. The installation of occupancy sensors is recommended.
2. Lamps shall be reduced in number and/or wattage to provide the lighting level appropriate for the activities of the area affected. Guidelines regarding lighting levels are included at the end of this memo. Incandescent lighting shall be replaced with higher efficiency fluorescent lighting wherever possible.
3. For fluorescent lights, a special effort shall be made to replace older "core and coil" ballasts with newer energy efficient electronic ballasts.
4. Significant energy savings are made possible by the selection of lower level background lighting with small-area task lighting for higher level lighting requirements – an approach particularly appropriate for computer use areas. Lighting fixtures should be kept clean to maintain lighting levels.
5. Whenever possible, custodial work shall occur during daylight hours. Custodial personnel shall turn lights on only as needed for custodial work and turn lights off when their work is done.
6. Security and safety lighting shall be held to the lowest acceptable levels. Purely decorative lighting, inside or outside, shall be eliminated.

OTHER ENERGY MANAGEMENT OPPORTUNITIES:

1. When replacing energy-using equipment, the most cost efficient models shall be selected. The life-cycle costing procedures established by the Department of General Services, Division of Procurement, shall serve as the basis for equipment selection. (For additional information, contact the Technical Staff at (916) 445-0957).
2. Shut off personal computers and other electrical equipment at the end of each workday unless there is a specific need for after-hours operation.
3. A free basic energy audit may be obtained by contacting the Energy Assessments Section within the Department of General Services, Real Estate Services Division. Major funding is available for cost-effective energy measures. Energy Assessments will work with facilities to develop energy projects.

Advice or consultation on this Management Memo as well as answers to technical questions or other questions regarding this policy, including funding sources available for project implementation, may be obtained from departmental energy managers or by contacting Douglas M. Grandy, Chief, Energy Assessments Section, Professional Services Branch, Real Estate Services Division, 717 K Street, Suite 409, Sacramento, CA 95814. Phone: (916) 323-8777, FAX: (916) 322-8809, E-mail Doug.Grandy@dgs.ca.gov



CLIFF ALLENBY, Interim Director
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Attachment

ILLUMINATION LEVELS

TYPE OF AREA	FOOTCANDLES
General Office/Classroom	20 - 30 - 50
Detailed Work/Equipment Operation	50 - 75 - 100
Computer Operation	5 - 7.5 - 10
Hallways and Restrooms	10 - 15 - 20

[Adapted from *IES LIGHTING HANDBOOK, 8th Edition, 1993, Application Volume, Section 2*]

NOTE: The lighting levels given above are recommended ranges. The highlighted center value is the recommended target and the ranges on either side are to allow for adjustment for special situations. The lower limit of the range is recommended for decreased energy use where the situation permits.