The State of Wisconsin

EXECUTIVE DEPARTMENT

EXECUTIVE ORDER NO. 417

Relating to Winter Heating Season Energy Conservation Measures for Facilities Owned by the State of Wisconsin

WHEREAS, the cost of natural gas and other heating fuels has increased substantially over historical levels; and

WHEREAS, the 2000-01 heating season has already been colder than normal and forecasts project normal to colder-than-normal weather patterns for the balance of the heating season in Wisconsin; and

WHEREAS, the Department of Administration has already taken steps to mitigate the impact rising heating costs on state agency budgets, such as switching to lower-cost fuel sources; and

WHEREAS, a comprehensive energy conservation strategy is needed to further reduce the demand for natural gas and other heating fuels used in state facilities; and

WHEREAS, building managers throughout state government have the judgement and expertise to balance the need to conserve energy resources while also providing a safe and appropriate work environment;

NOW, THEREFORE, I, TOMMY G. THOMPSON, Governor of the State of Wisconsin, by virtue of the authority vested in me by the Constitution and laws of the State of Wisconsin, do hereby:

1. Proclaim that it shall be the policy of State of Wisconsin Executive Branch agencies to hold heating fuel use for state-owned facilities to the minimum level possible without adversely affecting state facilities, equipment, employees, visitors or program operations; and

2. Proclaim that it shall be the goal of all State of Wisconsin Executive Branch agencies to promote employee awareness and understanding of energy conservation measures; and

3. Direct the Secretary of Administration to issue energy conservation guidelines for the 2000-01 heating season for use by all State of Wisconsin Executive Branch agencies that shall:

    a. Prescribe temperature, humidity and other standards for occupied and unoccupied space in state government-owned facilities; and

b. Encourage the maximum use of automated temperature set-back systems and other routine procedures to conserve energy usage; and

c. Increase maintenance and calibration checks on all controls and primary HVAC systems to promote efficient operation; and

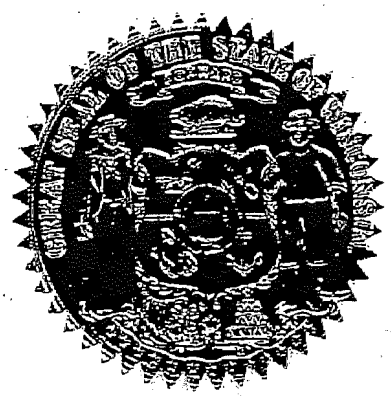
d. Permit the use of innovative practices, such as consolidation of program functions within buildings to permit temperature setbacks in portions of those buildings, to conserve energy usage; and

e. Increase building occupant awareness of energy-conserving practices, such as opening blinds during the daytime to allow the maximum use of daylight illumination and closing blinds at night to conserve heat; and

f. Prescribe other steps that will promote energy conservation.

4. Direct all Executive Branch agencies to cooperate fully with the Department of Administration to achieve energy cost savings; and

5. Direct the Secretary of Administration to take other steps, as necessary, to promote energy conservation during the balance of the 2000-01 heating season.



IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Wisconsin to be affixed. Done at the Capitol in the City of Madison this twenty-fourth day of January in the year two thousand and one.

Tommy G. Thompson

TOMMY G. THOMPSON
Governor

By the Governor:

Douglas La Follette

DOUGLAS LA FOLLETTE
Secretary of State

TOMMY G. THOMPSON
GOVERNOR

GEORGE LIGHTBOURN
SECRETARY

Office of the Secretary
Post Office Box 7864
Madison, WI 53707-7864
Voice (608) 266-1741
Fax (608) 267-3842
TTY (608) 267-9629

WISCONSIN DEPARTMENT OF
ADMINISTRATION

Date: January 26, 2001

To: State Agency Heads

From: George Lightbourn, Secretary
Department of Administration

Subject: Executive Order on Energy Conservation

This winter, record high fuel prices and colder weather have combined to create a serious budget problem for state agencies. Expenditures from fuel and utility appropriations have risen dramatically.

The Department of Administration has already taken steps to mitigate the impact on agency budgets by directing all agencies central plants to switch from high priced natural gas to less costly coal or fuel oil wherever possible. However, more needs to be done.

Accomplishing any significant reduction in energy demand will require the cooperation of all state agencies.

I am enclosing a copy of an Executive Order from Governor Thompson that directs all executive branch agencies to hold heating fuel use in state facilities to the minimum level possible. I have also enclosed specific directives for energy conservation in the form of a Heating Season Energy Policy announcement. We respect that your agency may have some specific facility needs that may require exemption from the policy. I am asking you to provide DOA with a list of any major exemptions you feel are required for your agency. Please direct your response and any questions you may have on the Announcement, to David Schmiedicke, Administrator, Division of Facilities Development at (608) 266-1031.

I appreciate your cooperation in this important matter.

WISCONSIN DEPARTMENT OF
ADMINISTRATION

TOMMY G. THOMPSON
GOVERNOR

GEORGE LIGHTBOURN
SECRETARY

Division of Facilities Development
Post Office Box 7866
Madison, WI 53707-7866
Voice (608) 266-2731
Fax (608) 267-2710
TTY (608) 267-9629

ANNOUNCEMENT

JANUARY 2001
STATE OF WISCONSIN
HEATING SEASON ENERGY-USE POLICY

The State of Wisconsin Heating Season Energy-Use Policy is intended to hold heating energy use in state buildings to the minimum level possible without adversely affecting state facility program operation. It is designed to strike a reasonable balance between minimum energy use and building occupant comfort.

This policy recognizes that building managers are best qualified to judge the operating capability of their individual heating and ventilating systems. Holding energy costs down while maintaining an adequate and workable environment depends on their operating expertise.

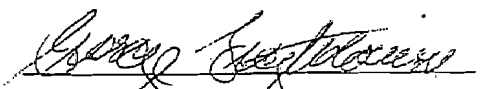
Energy conservation also requires the full support of management. Such support will promote building occupant understanding and encourage their cooperation with measures recommended, to conserve energy during the heating season.

Energy management systems are useful in logging the recommended measures and help to track space temperatures and equipment on-off status. This may be used by the Division to verify that agencies are complying with this policy.

The energy conservation measures that have been instituted in state-owned facilities in the past have resulted in a reduction in the rate of use of fossil fuels statewide. This heating policy, when adhered to, will have a significant affect on these savings. This policy requires that space temperatures be reduced and noncritical systems be shutdown during unoccupied periods in order to achieve savings. Buildings or portions of buildings may be required to be closed and activities relocated to other areas.

The energy policy is issued in accordance with Wis. Stats. 1.12, 16.895, 16.95, Wis. Adm. Code COMM 64.05, Wis. Adm. Code COMM 63. Questions or comments regarding this policy should be referred to the Bureau of Engineering and Technology, Division of Facilities Development (c/o Jim Schey). We would be pleased to receive any suggestions that you feel would further improve energy savings in state-owned buildings.

Authorized by:



GEORGE LIGHTBOURN
SECRETARY

ENERGY CONSERVATION MEASURES *(HEATING SEASON):*

Implement the following measures consistent with the requirements of health and safety and the requirements of the building code (Refer to Energy Policy on the subsequent pages of this document for more specific details):

- Maintain occupied space temperatures at or below 68 degrees F during winter.
- Maintain unoccupied space setback temperatures at or below 60 degrees F during winter.
- Areas such as vestibules, stairwells, mechanical rooms, elevator equipment rooms, electrical vaults and unoccupied storage spaces should be maintained at temperatures at or below 60 degrees F. during winter.
- Shut down all systems during unoccupied periods that are not critical to maintaining the unoccupied setback temperature.
- Where humidification systems are used during winter, maintain space relative humidity at or below 20%.
- Shut off all unnecessary exhaust fans and close outside air dampers during unoccupied periods.
- During periods where normally occupied spaces do not have daytime-use such as: weekends, holidays, and semester breaks, set those spaces to follow the unoccupied mode procedures. Also, consolidate program functions within buildings during extended unoccupied periods to maximize system shutdowns and temperature setbacks during these periods.
- Building automation systems should be utilized to the maximum extent possible to schedule the use of ventilation systems for the minimum possible operation and to set-back space temperatures during unoccupied periods.
- Increase maintenance and calibration checks on all controls and primary HVAC operating equipment.
- Use window blinds to maximize daylighting illumination during daylight hours and close the blinds at night to conserve heat.
- Turn off lights when the classroom, office or laboratory is not in use. Reduce or eliminate any use of incandescent lighting.
- Turn off office machines, computers and other office equipment when not in use or activate the sleep mode settings.
- For all operable windows make sure windows stay closed, and that any storm windows are properly in place and closed.

DEFINITIONS

Dry-Bulb Temperature: The temperature of air at rest, measured by an accurate thermometer; also known as ambient temperature. Temperature in this policy refers to dry-bulb temperature.

GPM: Gallons per Minute

HVAC: Heating Ventilating and Air-Conditioning.

LWT: Leaving Water Temperature

O.A.: Outside Air

Setback Temperature: Temperature to which interior building temperature is intentionally lowered during the building's unoccupied periods.

Supply Air System: Mechanical system that supplies ventilation air, consisting of filtered and tempered return air and/or outside air, to occupied areas of buildings.

Administrative Code "NMR": This policy contains procedures consistent with minimum temperatures specified in the attached table form the Wisconsin Administrative Code ILHR 64.05(1). Within the table, some spaces (Ex.: warehouses and garages) show "NMR" which means "No Minimum Requirement"; maintain temperatures as low as possible consistent with the use of the space in these areas.

OPERATING PROCEDURES

BUILDING OCCUPIED OPERATION

Maintain occupied space temperatures at or below 68 degrees F during winter Allowable exceptions are listed on page 3.

Where humidification systems are used during winter, maintain space relative humidity at or below 20%.

Minimize the hot water supply temperature needed for reheat to spaces. Use a reset schedule such as: 180 deg. F LWT at –15 deg. F O.A. temperature to 120 deg. F LWT temperature at 60 deg. O.A. temperature.

BUILDING UNOCCUPIED OPERATION

Maintain unoccupied space setback temperatures at or below 60 degrees F during winter.

Shut down all systems during unoccupied periods that are not critical to maintaining the unoccupied setback temperature.

When buildings have a perimeter heating system, shut down air handling unit fans and use perimeter heating system to maintain desired setback temperature. When buildings do not have a perimeter heating system, cycle air handling unit fans intermittently to maintain setback temperatures. Shut all unnecessary exhaust fans and close outside air dampers during unoccupied periods.

During periods where normally occupied spaces are do not have daytime use such as: weekends, holidays, semester breaks, etc, follow the unoccupied procedures of this policy to minimize unnecessary energy use. Also, consolidate program functions within buildings during extended unoccupied periods to maximize system shutdowns and temperature setbacks during these periods.

DESIGNATED AREA OPERATION

Areas such as vestibules, stairwells, mechanical rooms, elevator equipment rooms, electrical vaults and unoccupied storage spaces should be maintained at temperatures at or below 60 degrees F. during winter.

Mechanical rooms, electric vaults and elevator equipment rooms that use reverse acting thermostats to control dampers and fans for outside air ventilation should be operated to use their own internal heat gain and minimize use of supplemental heat. Use ventilation fans to maintain maximum temperatures in these spaces of 85 degrees F.

EXCEPTIONS

Exceptions from these rules are granted to resident and patient areas of hospitals, nursing homes, nursery and elementary schools, day care centers, shower and locker rooms, patient cottages, prison cells, research facilities, data processing and computer rooms, print shops and other special areas where temperature and humidity are critical. However, administrative offices, maintenance shops, storage areas, and garages in these buildings are subject to the procedures of this policy.

NOTE: These exceptions do not relieve Physical Plant/Management from responsibility for maintenance required to ensure that the heating and ventilating systems are operated at peak efficiency. Proper maintenance must be accomplished to assure future work required for replacement/reconditioning can be financed from the minimum maintenance program.

HEATING AND COOLING SYSTEM MAINTENANCE

Air Balance: While this is not a yearly maintenance item, it is an issue that needs to be considered. If the balance of air is not acceptable, arrange for corrective action.

Boiler Tubes: Clean both flue and water tubes in boilers every year before start-up. Periodically clean fire tubes in oil-fired boilers during the heating season.

Boiler and Cooling Tower Blowdown Systems: Check and adjust automated blowdown systems to maintain appropriate cycles of concentration and minimizing unnecessary energy usage.

Building Automation Systems: Building automation system should be utilized to the maximum extent possible to schedule the use of ventilation systems for the minimum possible operation and set back space temperatures during unoccupied periods. They are not a substitute for actual visual inspections, testing or maintenance of equipment.

Burners: Test and adjust burners for maximum combustion efficiency.

Coil Cleaning: Coils should be checked to determine if cleaning is needed. Dirty coils will cause an increase in energy consumption.

Heat-Exchange Surfaces: Maintain surfaces in optimum condition at all times to achieve manufacturer's rated capacity.

Filters: Air handling system filters are to be cleaned or changed regularly.

Damper Linkages and Operators: Inspect all damper linkages and operators for proper operation. During unoccupied periods make especially sure that the fresh air dampers close tightly in AHU's which are cycling to maintain space temperature.

Steam Traps: Give high priority to steam trap maintenance.

Thermostats: Calibrate thermostats on a regular basis to ensure their proper operation.

Overheating: Uncontrolled overheating of a space indicates a control system malfunction or a design problem. Correct malfunction; report design problems to the Division of State Facilities Development.

Water System Chemical Treatment: Maintain a proper chemical treatment program for hot water to minimize scale and fouling of heat transfer surfaces.

DOMESTIC HOT WATER SYSTEM

Turn off hot water circulating pumps when the building is not occupied.

Maximize use of flow restrictors (0.5 gpm faucets, 2.5 gpm showers and low flow fixtures).

Minimize use of domestic water cooled equipment. Where used, throttle balance valve to minimize flow and maximize temperature rise.

* * *