



## Energy Conservation Plan

### I. DEFINITIONS

**Cooling Season** - That period of the year when air conditioning or ventilation is necessary due to outside heat and humidity.

**Heating Season** - That period of the year when an alternate heat source is necessary due to the low outside temperatures.

### II. HEATING SEASON

The following practices will be used to conserve energy during the season when heat is required.

- A. Thermostats and other control devices must be set to maintain a maximum temperature in heated spaces of 68°F, except in hospitals, treatment, or other specific areas where a higher temperature is necessary for health, programmatic, or technical requirements. Room temperatures must be checked with thermometers rather than relying on the scales of control devices.
  1. During occupied hours, the temperatures of unoccupied spaces must be reduced to at least 63 °F.
  2. During unoccupied hours, no heat will be supplied to a building if the outside temperature is greater than 50°F.
  3. During unoccupied hours and if the outside temperature is less than 50 °F, controls must be set to supply heat to the extent that the space temperatures will not exceed 55 °F.
- B. Maintaining a proper level of humidity in heated air is important to comfort. Humid air feels more comfortable at a lower temperature than does dry air. Humidifying equipment and controls in buildings so equipped should be maintained and adjusted to provide humidity at design conditions.
- C. Dampers will be adjusted to reduce to a minimum the induction of cold outside air into the heating system. Do not operate exhaust systems when buildings are unoccupied.
- D. Blinds, shades, drapes or other window coverings should be kept closed at night in order to reduce the heat loss through windows. Advantage should be taken of the sun's heat by opening window coverings to admit sunlight.
- E. Windows and outside doors must be kept closed when heating is required.
- F. Exposed heating pipes, domestic hot water pipes, ductwork, walls, floors, and ceilings should be insulated to the recommended thickness.
- G. Heating equipment should be turned off and doors closed in spaces that will be unoccupied for several hours.
- H. Central steam heating systems must be inspected on a continuing basis and all traps, expansion joints, and other equipment repaired and maintained to prevent leaks both in the distribution systems and in the buildings.
- I. Temperature controls should be inspected regularly and properly maintained to ensure proper functioning and settings.
- J. All systems carrying hot water, such as condensate returns, hot water heating systems, and domestic hot water systems, should be inspected and repaired regularly with particular emphasis on unions, valve stems, and faucets.
- K. Supplemental heating units, such as plug-in electric heaters, should be avoided.



### **III. COOLING SEASON**

The following practices must be used to conserve energy during the season when air conditioning and ventilation are required.

- A. The temperature of air-conditioned spaces should be maintained at no lower than 78 °F, unless health or programmatic reasons dictate a lower requirement.
- B. Space temperatures must not be maintained below 83 °F by the use of cooling cycle or ventilating equipment in spaces that are not in use.
- C. Air conditioning equipment must not be used in spaces that are unoccupied for several hours.
- D. The amount of outside air brought through the cooling equipment should be reduced whenever possible.
- E. Lights should be used only when necessary as they add to cooling loads.
- F. Outside doors and windows must be kept closed when cooling equipment is in use.
- G. Blinds, shades, drapes, or other window coverings should be kept closed as much as possible to reduce heat gain through windows.

### **IV. YEAR ROUND LIGHTING AND POWER**

To conserve energy on lighting and power required for year round use, the following practices must be implemented.

- A. Lighting used for ornamental purposes will be discontinued or reduced to allow for needed security lighting.
- B. Lighting in corridors, lobbies, and other areas, will be reduced. Lamps or tubes will be removed from fixtures whenever possible without reducing the lighting levels below 20-foot candles in corridors and 70-foot candles in offices. Judgment must be exercised in the removal of lamps so that they are not removed from fixtures where proper lighting is necessary. Lighting levels will be surveyed using a light meter.
- C. Low energy consumption lamps will be substituted in both incandescent and fluorescent fixtures, whenever possible.
- D. Persons must turn off lights when leaving their work areas.
- E. Motors, pumps, and other equipment should be operated only when needed.
- F. Domestic hot water temperature control devices will be set so that the temperature of the water as measured at the first fixture served by the heater does not exceed 105 °F. This will apply unless it can be demonstrated on a specific case basis that there is a need for a higher temperature to allow for the proper functioning of certain equipment.

### **V. CONSERVATION MAINTENANCE**

The total energy conservation program requires use of the following maintenance practices.

- A. The caulking and weather stripping around all doors and windows should be checked, and replaced or repaired as needed. Storm windows or double-glazed windows and storm doors will be installed on all heated or cooled structures where practical.
- B. Air filters used in all heating, cooling, and ventilating systems must be checked and cleaned or replaced in accordance with manufacturer's recommendation or as environmental conditions dictate.



- C. Buildings that are heated or cooled will have overhead and side insulation checked by the maintenance personnel and when practical, more insulation added if the current insulation is found inadequate.
- D. Buildings or areas thereof that will not be in use for long periods of time should be considered for closing. Examples would be visiting areas, storage rooms, meeting rooms, seasonal industrial facilities, and housing units during low occupancy.

## **VI. DESIGN CRITERIA**

Architecture and Engineering Services will be responsible for designing or approving the design of efficient buildings which are cost effective and which utilize the appropriate type of energy to suit the locality, size, function, and available energy sources.

## **VII. COMPLIANCE MONITORING**

The Organizational Unit Head at each institution or facility will be responsible for monitoring energy conservation compliance with these procedures, and to make provisions for any corrective action necessary for compliance.

## **VIII. TECHNICAL ASSISTANCE**

Architecture and Engineering Services will provide the technical assistance necessary for compliance with these procedures and will also assist in monitoring compliance at each institution or facility.