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| CITY OF APPLETON PERSONNEL POLICY | TITLE: ENERGY CONSERVATION/SUSTAINABILITY | |
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I. PURPOSE

The purpose of this policy is to establish the requirements for an energy management program:

- A. to realize the greatest return from every dollar expended on energy resources and increase the efficient use of energy, water and heating fuels;
- B. to increase energy awareness, conservation and efficient management among each facilities' occupants with regard to natural gas, fuel oil, electricity and water;
- C. and to be an example to the community of progressive environmental stewardship.

The resulting efficiency increase and monetary savings will help offset rising energy costs and provide resources for further energy conservation initiatives.

II. POLICY

Faced with continually increasing energy costs and limited operating funds, we must use all available means to reduce our energy costs and increase efficiency.

The Parks, Recreation & Facilities Management Department will achieve success with this policy through active and passive methods. Passive methods include, but not limited to, use of sustainable products when feasible to reduce environmental impacts and incorporating energy efficiency in new construction and facility renovations. Active methods include, but not limited to, educating occupants on conservation measures and operating facilities and equipment in the most energy efficient manner feasible such as those listed in the operations procedures stated below.

III. DISCUSSION

The City of Appleton consumes significant amounts of energy in its operation of facilities and equipment. The Parks, Recreation and Facilities Management Department is committed to supporting and adding emphasis to energy management and conservation initiatives.

The Parks, Recreation and Facilities Management Department will attempt to maintain a reasonable balance between operational requirements and energy conservation. The City's ability to maintain this balance through investments in energy efficient equipment and building systems is somewhat constrained by available resources. Accordingly, the following guidelines for utility management will be implemented to best support the mission and key strategies of the City of Appleton. The Parks, Recreation and Facilities Management Director will review any deviations from these guidelines.

- A. Reduce energy costs, eliminate waste, and conserve energy resources by using energy-efficient and cost-effective technology.
- B. Incorporate energy efficiency into the decision-making process during the design and acquisition of facilities and equipment emphasizing the use of renewable energy sources. Projects/systems with payback periods of less than five (5) years will be considered feasible as an energy-wise project.
- C. Increase energy efficiency through capital investment and/or improved operations.
- D. Establish partnerships with local utilities and state resources to provide technical assistance and to share costs on energy conserving initiatives to the extent possible.
- E. Procure Energy Star rated appliances when feasible.

IV. DEFINITIONS

Commissioning – is the process for achieving, verifying and documenting the performance of a facility or facility equipment. It is used to determine whether the systems within the facility meet the design intent, but also the functional and operational needs of the personnel it serves.

Recommissioning – is a type of commissioning that occurs when a building that has already been commissioned undergoes another commissioning process. The decision to recommission may be triggered by a change in building use or ownership, the onset of operational problems, or some other need.

Retrocommissioning – is the application of the commissioning process to existing buildings. Retrocommissioning is a process that seeks to improve how building equipment and systems function together. Depending on the age of the building, retrocommissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life. In

all, retrocommissioning improves a building's operations and maintenance (O&M) procedures to enhance overall building performance.

Relative Humidity (RH) – is a ratio, expressed in percent, of the amount of atmospheric moisture present relative to the amount that would be present if the air were saturated. Since the latter amount is dependent on temperature, relative humidity is a function of both moisture content and temperature. A higher RH will make it feel warmer than a lower RH.

Sustainability – means seeking solutions that simultaneously improve social, economic, and environmental vitality by meeting the needs of the present without compromising the ability of future generations to meet their own needs.

PROCEDURES

A. Operations

In many instances temperature management of indoor environments is governed by central controls monitored by the Parks, Recreation and Facilities Management staff. Building occupants can, however, contribute to their own comfort by wearing seasonal clothing and by making sure that windows, shades and blinds work and are positioned according to the season. The human sense of comfort changes seasonally. According to the Northwest Energy Efficiency Council, 10% of occupants are likely to be dissatisfied as a result of the variance in a person's comfort level, regardless of the conditions.

City of Appleton thermal comfort targets (ASHRAE Standard 55-2010) are as follows:

Winter – (68-74 degrees) 30-40% RH

Summer – (73-79 degrees) 40-60% RH

If building temperatures result outside of the target ranges, the building occupant shall notify the Parks, Recreation and Facilities Management Department by submitting a work order request.

Heating Season: The targeted temperature for most workspaces is 72 degrees Fahrenheit. Due to building characteristics and control limitations, actual temperatures will vary. Temperatures in storerooms, hallways, stairwells and other unoccupied areas will be kept closer to 68 degrees Fahrenheit to the extent possible. In cases where central heating cannot meet targets, electric heaters will be provided with the authorization of the Parks, Recreation and Facilities Management Director or his/her designee. Heaters not provided by the Parks, Recreation and Facilities Management Department are not authorized for use. These devices shall be used minimally for both energy conservation and fire safety as they can be dangerous when misused, and will be allowed only under controlled circumstances. Windows

will not be opened during the winter to cool spaces. The Parks, Recreation and Facilities Management Department should be notified as soon as possible when heating equipment is not performing adequately and will make the repair as quickly as possible.

Cooling Season: In areas where air conditioning systems have been installed, the targeted temperature will be 74 degrees Fahrenheit. In areas where large numbers of people may assemble, the pre-event target may be reduced to facilitate the occupant heat load. Due to building characteristics and control limitations, actual temperatures may vary from the target.

Electric fans to supplement central cooling are allowed only with the authorization of the Parks, Recreation and Facilities Management Director or his/her designee. These devices can pose additional hazards, and will be allowed only under controlled circumstances.

Ventilation: Areas equipped with ventilation systems will be operated in the most economical way possible, consistent with the Occupational Safety and Health Administration's requirements and the comfort and safety of building occupants. During times of reduced occupancy, the cycling of fans or the reduction of fan speeds will be employed whenever possible to conserve energy. If possible, systems will be shut off entirely during periods of minimal or no use.

Lighting: Adequate lighting for interior and exterior use is essential, but must be provided in an energy efficient manner. Fluorescent and LED lighting will be used whenever possible employing the latest energy efficient technology feasible. Desk lamps are not supplied to every work area, but are acceptable for use as needed. Lighting in all cases will be turned off whenever it is no longer required by the room or facility occupants. The occupants of the facility are responsible for turning off energy consuming devices whenever possible to conserve resources. Occupancy sensors will be deployed where feasible.

Water Usage: Individuals will take care to use water sparingly, and to be sure to completely turn off water spigots after use. Report leaking taps or valves to the Facilities Manager.

Transportation: Bicycle racks will be provided at stand-alone facilities to promote the use of bicycles to reduce the need for additional parking, promote health and to consider the effects on the environment.

B. Sustainability

City facilities must be financially viable to operate, easy to maintain, durable, and they must contribute to the productivity and well-being of occupants and visitors. City facilities should model the responsible stewardship of natural and financial

resources with the goal of long-range thinking that leads to facilities that minimize environmental impact, save operation and maintenance costs, and promote health and well-being. When facility renovations and/or construction are necessary, the City will consider the following through all stages of design, construction and operation:

1. Economic Impact
 - a. Total cost of occupancy
 - b. Durability, flexibility and maintenance needs
2. Environmental Impact
 - a. Site, water and material resources
 - b. Energy and atmosphere
3. Social Impact
 - a. Human health and potential (productivity)
 - b. Community impact

C. Commissioning

On major new construction projects commissioning will be implemented. An independent commissioning agent not provided by the contractor will conduct commissioning.

D. Retrocommissioning

On major new renovation projects retrocommissioning will be implemented. An independent commissioning agent not provided by the contractor will conduct commissioning.

E. Recommissioning

Recommissioning will take place on existing buildings as determined by the Director of Parks, Recreation and Facilities Management to improve the performance of a facility not operating efficiently.