

RESOURCE CONSERVATION

Background

The cost of utilities and the impact on the environment is a concern to all operations and management within the District. While some things can be approached at the planning stage, and in capital replacements, the biggest impact continues to be from sound daily operating practices, and attention to good housekeeping. Our program does not require compromising indoor thermal comfort or air quality, but rather focuses on providing the required conditions in the most efficient way possible.

Procedures

The following items are provided to allow you to make the appropriate cost-effective decisions in your operating area:

1. Daily Operations

1.1 Lights – Fluorescent

- § Fluorescent lights in classrooms, shops activity rooms, etc. are to be turned off if areas are to be vacant for more than 15 minutes.
- § If tubes are intentionally removed from fixtures, or are burned out, remove or de-energize the ballast since it continues to use energy even without making light.

1.2 Lights – Incandescent

- § Incandescent lights are to be turned off any time the area is to be left vacant. Fluorescent lights provide 5 times as much illumination per watt of energy, so conversion to screw-in compact fluorescent lights is to be considered wherever the operating hours and fixture size permits.

1.3 Lights – Occupancy Sensors

- § For areas that are frequently vacated, occupancy sensors are being provided as situation and funds permit. Motion and infrared sensing can be used as well as sensitivity and variable delay settings. Please assist in setting up the sensors to meet the needs of the operation, and do not over-ride the sensors without advising maintenance.

1.4 Lights – Exterior

- § Exterior lights are controlled by a time clock, a photocell, or both, according to the security strategy for that particular school and area. The controls are meant to support the strategy. This means that the time-clock setting must be accurate. After power outages and changes to and from Daylight Savings Time, the actual operation and settings must be verified.

1.5 Domestic Hot Water Circulation Pumps

§ Most schools have a system to circulate hot water to all faucets. These pumps use electricity as well as increasing the heat losses from the pipes. The circulation pumps shall be turned off for vacant periods (overnight, weekends and holidays). Time clocks or DDC automated controls may not be provided for your school, so the custodian must control this.

1.6 Indoor Environment

§ The indoor air temperature and thermostat settings should be as follows:

– Classrooms	20C	68°F
– Corridors	18	65
– Activity Rooms	18	65
– Storage & Non-student areas	15	59
– DHW Service	50	122
– Night Setbacks	15	59

§ More detailed explanation of acceptable room temperature, humidity, and pollutants is contained in Administrative Procedure 546 - Indoor Air Quality.

1.7 Window Openings

§ Windows are meant to be kept closed during the heating season. Some older schools do not have central air supply systems and may need to open windows. This is to be carefully monitored, for both energy and security.

§ If overheating occurs, the procedure will be to shut down the heat to the affected area first, then use the windows for relief of overheating.

§ Where overheating is an on-going problem, this must be reported to Maintenance.

1.8 Air Vents

§ There are gravity air vents provided in many schools to allow for a form of air conditioning using outside air. At the start of each heating season, these vents are to be closed and the seals checked for wear.

1.9 Thermostat Setbacks

§ Many schools are provided with night setback smart thermostats. These need to be used, and their operation checked from time to time. (batteries on board may have failed).

1.10 Water Urinals

§ Water urinals are the biggest water consumers in most schools. Older installations are designed to flush several times per hour, night and day, 365 days a year. Urinals are to be flow reduced for unoccupied periods (spring and Christmas break, and summer). Conversion to auto-sensing flushing is supported as funds permit.

1.11 Water Hand Basins

§ The large volume of water use in water faucets can be reduced by making sure washers are repaired and replaced, and installing flow aerators to reduce full flow volumes. Check the status of those in your area, and submit a Maintenance Work Request as necessary.

1.12 Water Leaks

§ Occasionally a leak will occur in a newly constructed school or in older pipes in an existing school. During slow periods such as spring break or summer, record readings on the water meter. Consumption in unoccupied periods should be negligible. If this is not true, a leak is indicated, and remedial action must be taken by Maintenance.

1.13 Computer Monitors and CPUs

§ Computers are to be turned off when not in use. Screen savers do not save energy. If for some reason the CPU cannot be shut down, even turning off the monitor will save more than 50% of the energy during the night. Software can be obtained to automatically shut down the computer safely if it is not in use.

1.14 Time-Clocks

§ Check time clocks after a power outage or DST/PST change.

2. Seasonal Shutdowns: — (see Form 547-1)

- 2.1 Lighting
- 2.2 HVAC
- 2.3 Gas pilot lights
- 2.4 Occasional use
- 2.5 DHW circulation pumps
- 2.6 Curtains and blinds
- 2.7 Kitchen equipment
- 2.8 Refrigerators
- 2.9 Vending machines
- 2.10 Computers and TVs
- 2.11 Bells
- 2.12 Compressors
- 2.13 Boilers
- 2.14 Discontinue garbage services
- 2.15 Automated controls
- 2.16 Technical Advice from RCM

Reference: Section 65, 85, School Act
Form 547-1 Resource Conservation Management – Summer Break Shutdown Activities