LIGHTING CONTROLS

Managing when lights are on and at what level of output is an important way to reduce energy use for lighting. Manually operating switches is the easiest way to control lighting in many situations. Simply turning off a light when leaving a room is efficient and simple. It does, however, rely on one important—and not always reliable—factor: human behavior. In some situations, controlling lighting automatically will not only save energy and money, it can also provide safety and convenience. Lighting control options include dimmers, timers, and motion detectors.

**Dimmer switches**

A typical dimmer control switch reduces the electrical current to a light fixture, reducing light output and saving energy. Traditionally used with incandescent bulbs, dimmers will also work with certain LED bulbs (some older dimmer switches may not work well with some LED bulbs; check with the manufacturer to ensure compatibility). Some CFL bulbs are also capable of operating with a dimmer switch, but the effect is more like that of a three-way bulb: light levels "jump" from high to medium to low to off. Bulbs that are not designed to be used with a dimmer may burn out prematurely or overheat. Check the packaging or manufacturer to avoid performance or safety problems.

**Timers**

Many devices, including lighting, can be controlled with a timer. Having selected lights come on when occupants arrive home and off at bedtime, for instance, can provide convenience and safety. Security concerns can be addressed by having lights come on when on vacation, as well. The timer avoids the energy wasted from having lights and devices on over long periods of time.

Newer electronic timers can be plugged into a wall outlet and lamps, radios, computers, etc. can then be plugged into the timer. Entering start and stop times for each day of the week can provide a customized operating schedule.

**Motion detectors**

In locations where light is needed but the switch is not conveniently located, a motion detector switch can provide a good alternative to leaving a light on all night. Lights outside front and back door entrances or driveways near garages can be set to come on at night when movement is detected and turn off in a set amount of time.

Outdoor motion detector fixtures also provide security and safety, warning of intruders and lighting walkways and steps. The sensitivity and range of these light fixtures should be adjusted so that they are not triggered by small animals or wind-blown trees. Remember to select bulbs that are specifically designed for outdoor use. Many CFLs may light slowly or not at all in cold temperatures; LEDs may be a good choice because of brightness and long life.

Motion detector switches can also be used inside of buildings in areas that are occupied frequently or that have awkward switch locations. A motion switch in a bathroom or basement stairway can operate lights only when someone is present, for example.

**Occupancy sensor switch**

More commonly seen in public restrooms and commercial buildings, occupancy switches are also available for home use. They are particularly useful in locations where the switch is inconveniently located—at the far end of a hallway or stairway—or where lights are left on for safety or security—in a garage or basement.