



## Multifamily Facility Management Services

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### IMPROVE EFFICIENCY OF EXTERIOR LIGHTING

#### Description:

Multifamily and small commercial buildings often use either incandescent floodlights or quartz lamps for exterior lighting. However, more efficient lighting options are available, which provide a more cost-effective means for lighting building grounds and parking lots.

The three best options are metal halide, high-pressure sodium and low-pressure sodium lamps. These are types of high intensity discharge (HID) lamps, so named because they operate with highly pressurized gas. In general HID options are best for applications which do not require frequent switching since restart time is quite long. However, if faster restart is essential, HID fixtures are available with faster restart for an additional expense. (Another type of HID lamp, mercury vapor, is no longer recommended because of its poor efficiency and color rendering. While more efficient than incandescent or fluorescent, mercury vapor lamps even may be worth upgrading to metal halide or sodium, especially if the hours of operation are high on the fixture being considered.)

Of the three HID options, metal halide is the best to use if color rendition is important since it produces a bright white light. Its life expectancy is about 6-10 times longer than incandescent lamps and it is about 3 times as efficient. Applications might include outdoor security or building entrance lighting.

High-pressure sodium uses even less energy than metal halide (it is about 4 times more efficient than incandescents) and has a longer life, all for about the same product cost. However, because of its golden color, high-pressure sodium has poor color rendering. Applications include outdoor floodlighting, or building facade and security lighting.

Low-pressure sodium is 6 times more efficient than incandescents, making it the most efficient light source currently available; it also has the longest life expectancy (about 16 times longer than incandescents). Unfortunately, it is most suited to applications where color is of no importance since it emits a strong yellow light. It is also the most expensive of the HID options. Applications include back entrances, parking lots and roadways.

All of these HID options have overlap in their applications. As a result, it basically comes down to a decision of color rendering versus operational costs. Below, is a list of possible exterior

lighting improvements. A qualified contractor can provide more specific counsel regarding which type of HID lamp best meets particular application(s).

### Wallpacks

Many multifamily and small commercial buildings have incandescent flood lamps which serve as security lighting and are attached to the outside of the building, often around entryways. Self-contained HID wallpacks made specifically for this application are a good replacement option. All three HID lamp types are available in wallpacks. If color rendition is important in the specific application, metal halide is probably the best choice. Otherwise high pressure sodium is generally recommended for wallpacks since it is more efficient than metal halide, and is a more reasonable compromise between first cost and color rendition than low pressure sodium.

### Pole Lighting

Typical lighting for parking lots around multifamily and small commercial buildings consists of a number of poles scattered around the grounds, each with an incandescent globe on top. This globe usually contains an incandescent or quartz lamp, making it a good candidate for upgrade. Since color rendition is not usually important for this application, either high pressure sodium or low pressure sodium is typically the best replacement choice. However, if color rendition is an important element of the application, metal halide options for pole lighting are also available.

### **How to Implement:**

Any work involving the electrical service of a commercial property should be done by a licensed electrician. This would apply to both replacement wallpacks and upgrades to pole lighting. The contractor should follow any state and local building codes in completing the work. In addition, contractors should follow recommended procedures for the disposal of any lamps or ballasts removed from the building.

Lighting ideas are changing rapidly, with new products being introduced all the time. In addition, lighting applications considered impossible a couple of years ago are now being used effectively. As a result, it is useful to be alert to changes in lighting design and to the availability of new products.