PL4 Delay Loads to Off-Peak Hours, if Possible (Climate Zones: all)

Delaying loads to off-peak hours probably will not save energy but may save on utility costs. Examples might be electric pallet jacks, forklifts, and chargeable cleaning equipment. Most of these items are used and plugged in near the end of daily operation, causing peak loads coincident with lighting loads. Time clocks can be put on these circuits to delay operation to times when the store is not occupied. Other examples might include dishwashers in kitchen areas and washing machines, available to staff in some cases.

PL5 Identify Loads That Are Not Needed (Climate Zones: all)

Some loads can be disconnected. Quite often in cooler climates, water coolers run refrigerated units when the temperature of the street water is adequate. Excess equipment should be disconnected. Point-of-sale equipment should only be energized when it will be needed. In many cases, some of the point-of-sale equipment is only used during the Christmas season. Vending machines can be delamped in non-public areas.

Reference

DOE. ENERGY STAR®. www.energystar.gov.

Exterior Lighting

Good Design Practice

The following recommendations are not included in the Recommendation Tables in Chapter 3 because parking lots and grounds are often beyond the control of the individual retailer. If designing for parking lots and grounds, follow recommendations EX1 through EX4.

EX1 Exterior Lighting Power (Climate Zones: all)

Limit exterior lighting power to 0.15 W/ft^2 for parking lot and grounds lighting. Calculate only for paved areas, excluding grounds that do not require lighting.

EX2 Sources (Climate Zones: all)

- All general lighting luminaires should utilize pulse-start metal halide, fluorescent, induction, or compact fluorescent amalgam lamps with electronic ballasts.
- Standard high-pressure sodium lamps are not recommended due to their reduced visibility and poor color-rendering characteristics.
- Incandescent lamps are not recommended.
- For colder climates, fluorescent and compact fluorescent lamp (CFL) luminaires must be specified with cold-temperature ballasts. Use CFL amalgam lamps.

EX3 Parking Lighting (Climate Zones: all)

Parking lot lighting locations should be coordinated with landscape plantings so that tree growth does not block effective lighting from pole-mounted luminaires.

Parking lot lighting should not be significantly brighter than lighting of the adjacent street. Follow IESNA RP-33-1999 recommendations for uniformity and illuminance recommendations.

For parking lot and grounds lighting, do not increase luminaire wattage in order to use fewer lights and poles. Increased contrast makes it harder to see at night beyond the immediate fixture location. Flood lights and non-cutoff wall-packs should not be used, as they cause hazardous glare and unwanted light encroachment on neighboring properties. Limit lighting in parking and drive areas to not more than 360-watt pulse-start metal halide lamps at a maximum 25 ft mounting height in urban and suburban areas.

Use cutoff luminaries that provide all light below the horizontal plane and help eliminate light trespass.

The use of cutoff luminaires and limiting overall site brightness also permits greater visibility of storefronts from more distant locations of the parking areas and adjacent roadways, permitting retailers greater opportunity to create off-site visual impact.

EX4 *Controls* (Climate Zones: all)

Use an astronomical time switch for all exterior lighting. Astronomical time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours. If a building energy management system is being used to control and monitor mechanical and electrical energy use, it can also be used to schedule and manage outdoor lighting energy use. Turn off exterior lighting not designated for security purposes when the building is unoccupied.

References

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