

Sector: Commercial

Category/Practice: Energy Efficiency / Occupancy Sensors in Corridors & Stair Wells

Proposed GB Practice

Description

Occupant sensor controls are required to automatically reduce connected lighting power by at least 50% in corridors, enclosed stairwells, storage and stack areas not open to the public, library stack areas, and parking garages when unoccupied.

Applicability

New Construction: Applies

Existing Buildings/Additions: Applies

Existing Buildings/Alterations: Does not apply

Intent

Energy efficiency by limiting lighting that is often on for long periods of time (in some cases, 24 hours per day) when these spaces are mostly unoccupied while maintaining safety by controlling lights to 50% when areas are unoccupied.

Benefits and Costs

Triple Bottom Line Benefits

People: N/A

Economic: Electricity cost savings for utility customers. Potentially longer replacement cycles for lighting in controlled areas.

Environment: Reduced fuel use and CO₂ emissions at power plants.

Costs Passed to Owner

The installed cost for occupancy sensors is approximately \$0.08 - \$0.10 per square foot (about \$1,200 to \$1,500 for the example 15,000 sf office building).

Lost Opportunity

It would be more difficult and expensive to install the correct wiring and controls after the building has been constructed.

Implementation

Availability of Products and/or Services

Products are readily available.

Practicality

Very practical. This is currently done on more energy efficient buildings.

Enforcement Procedures

Permit application/plan review: Verify that controls are on construction documents.

Field inspection: Confirm occupancy sensors are installed.

Certificate of Occupancy: Nothing additional.

Support Materials Needs

City to provide information on the types of controls that work well for these situations.

Training Needs – Industry

Education on new requirements

Training Needs – Staff

No additional

Background

Current Practice

Occupancy controls in these areas currently not required.

Context

Corridor and stairwell lights are often left on during all hours that a business is open or in some cases (e.g. multi-family) they are on 24-hours per day. This background electricity use adds to utility costs, shortens the replacement cycle of lamps, and contributes to unnecessary greenhouse gas emissions. These lights are primarily left on for safety and convenience. Controlling the lights only down to 50% insures that someone doesn't open the door into a dark hallway or stairwell. As soon as the space is occupied the lighting returns to 100%.

Related Green Building Practices

N/A

Known Objections

- Small increase in cost of construction