

Public Comment CE185-16 WILLIAMS-B :

Proponent : Jeremiah Williams, representing U. S. Department of Energy (jeremiah.williams@ee.doe.gov) requests Approve as Modified by this Public Comment.

Modify as Follows:

2015 International Energy Conservation Code

C405.2.1.3 Occupant sensor control function in open plan office areas. Occupant sensor controls in open plan office spaces less than ~~300~~ 1000 square feet (~~28 93~~ 93 m²) in area shall comply with Section C405.2.1.1. Occupant sensor controls in all other open plan office spaces shall comply with all of the following:

1. The controls shall be configured so that general lighting can be controlled separately in control zones with floor areas not greater than ~~600~~ 1000 square feet (~~55 93~~ 93 m²) within the open plan office space.
2. The controls shall automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the open plan office space.
3. The controls shall be configured so that general lighting power in each control zone is reduced by not less than 80 percent of the full zone general lighting power ~~in a reasonably uniform illumination pattern~~ within 20 minutes of all occupants leaving that control zone. Control functions that switch control zone lights completely off when the zone is vacant meet this requirement.
4. The controls shall be configured such that any *daylight responsive control* will activate open plan office space general lighting or control zone general lighting only when occupancy for the same area is detected.

Commenter's Reason:

This proposal to add occupancy sensor control to open plan offices was approved as modified at the Committee Hearing by a vote of 10-2.

There are significant savings from this measure that covers large portions of office buildings that do not currently require occupancy sensors. The savings and cost effectiveness are discussed in the original proposal.

This public comment makes 3 changes.

1. The area threshold where multiple zone occupant sensors are required is increased from 300 square feet to 1000 square feet. Open office areas less than 1000 square feet can be successfully switched for occupancy sensor control with dual-technology occupant sensors.
2. The maximum control zone required within a larger open office area is increased from 600 square feet to 1000 square feet. This allows a reduction in cost, as fewer occupancy sensors would be required in a large office area.
3. The phrase "in a reasonably uniform pattern" is removed. While it is good design practice to apply this concept when switching local control zones vs. a remaining 20% of area lighting, it may be difficult to interpret and is not required to achieve the energy savings. It is expected that lighting designers and electrical contractors will follow this practice without this language being in the code.

While describing the more advanced open office control sequence requires several steps, a much simpler implementation is allowed in the description. Control zone lights can simply be switched in groups of less than 1000 square feet by overhead occupancy sensors. This simple approach is relatively low cost and easy to inspect. Manufacturers are making available lighting fixtures that are individually switched by integrated occupancy sensors. These straightforward products meet the requirements proposed.

The more advanced controls can also be implemented, as described in the four steps. The more advanced controls will typically be designed by a lighting professional, and have proper operation verified by that professional.

There is significant savings from this proposal. Increasing the limit at which multiple control zones are required and the size of control zones makes implementation in simple buildings more expedient and lower cost than in the original reason statement. Removing the need for the building official to interpret "reasonably uniform pattern" makes the language more enforceable based on ICC staff feedback.

We urge the approval of this proposal as modified by this public comment.

Bibliography: See original proposal reason statement.