

# GG262-14

## 808.2

**Proponent:** Julie Ruth, JRuth Code Consulting, representing American Architectural Manufacturers Association (julruth@aol.com); Thomas Culp, Birch Point Consulting (culp@birchpointconsulting.com)

### Revise as follows:

**808.2 Applicability.** Daylighting of building spaces in accordance with Section 808.3 shall be required for the following occupancies:

1. A Group A-3 occupancy where the specific use of the room or space is for reading areas in libraries, waiting areas in transportation terminals, exhibition halls, gymnasiums, and indoor athletic areas.
2. A Group B occupancy where the specific use of the room or space is for educational facilities for students above the 12th grade, laboratories for testing and research, post offices, print shops, offices, and training and skill development not within a school or academic program.
3. Group E, F and S occupancies.
4. Those portions of Group M occupancies located directly underneath a roof, where the net floor area of the entire occupancy is 2500 ~~10,000~~ square feet (232~~929~~ m<sup>2</sup>) or greater.

**Exception:** Daylighting is not required in the following rooms and spaces:

1. Building spaces where darkness is required for the primary use of the space, including, but not limited to, light-sensitive material handling and darkrooms.
2. Building spaces that are required to be cooled below 50°F (10°C).
3. Unconditioned buildings that are equipped with exterior doors that, when opened, provide equivalent daylighting.
4. Alteration, repair, movement, or change of occupancy of existing buildings.

### Reason:

**Ruth:** This proposal reduces the threshold size at which Occupancy Group M spaces are required to have mandatory daylighting from 10,000 sq. ft to 2500 sq. ft. The current threshold of 10,000 sq. ft was based upon the provisions of the 2012 IECC. This threshold size was reduced to 2500 sq. ft in The 2015 IECC. Energy modeling has shown that significant reduction in lighting load can be achieved for open spaces that are much smaller than the 10,000 sq. ft originally addressed in both the IECC and IgCC. Reducing this threshold to 2500 sq. ft, as it was reduced for the 2015 IECC, is appropriate.

**Culp:** The purpose of this proposal is to update the IgCC to be consistent with the revised 2015 IECC toplighting requirement. The 2012 IECC requires a minimum amount of toplighting for certain spaces over 10,000 ft<sup>2</sup>, and section 808.2 of the 2012 IgCC used the same 10,000 ft<sup>2</sup> threshold to determine when daylighting must be provided in Group M occupancies (although the IgCC allows the daylight area to include both toplighting or sidelighting). Following a cost effectiveness study by PNNL for ASHRAE 90.1, both ASHRAE 90.1-2013 and the 2015 IECC were updated to reduce the size threshold to 2,500 ft<sup>2</sup>. (An exception was also added to account for both toplighting and sidelighting areas.) Therefore, this proposal simply updates the threshold in section 808.2 for Group M occupancies to ensure the 2015 IgCC is consistent.

**Cost Impact:** Will increase the cost of construction.

**Ruth:** This proposal would require daylighting in all Use Group M occupancies that are greater than 2500 sq. ft. in area, regardless of ceiling height. It has the potential to increase cost for those Use Group M occupancies that are greater than 2500 sq. ft. in area with ceilings below 15 ft in height. Such buildings represent a relatively small portion of all Use Group M occupancies.

**Culp:** This proposal will increase the cost of construction for Group M spaces between 2,500 ft<sup>2</sup> and 10,000 ft<sup>2</sup> with ceiling heights less than 15 ft. (Those spaces with ceiling heights greater than 15 ft are already required to meet this requirement in the 2015 IECC.) The 2,500 ft<sup>2</sup> threshold was found to meet ASHRAE 90.1 cost effectiveness criteria for ASHRAE 90.1-2013.

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