

# Energy Code for the State of Arizona

Currently, Arizona does not have a State energy code, as codes are adapted and enforced on a local level.

These jurisdictions have adapted 2006 IECC: Pima County, Buckeye, Duncan, Oro Valley, Phoenix and Scottsdale.

These jurisdictions have adapted 2003 IECC: Benson, Carefree, Clarkdale, Cochise County, Goodyear, Peoria, Queen Creek, Show Low, Sierra Vista, Surprise, Tucson.

These jurisdictions have adapted 2000 IECC: Florence, Pinal County.

Many local jurisdictions, as well as state-funded commercial buildings, use the ASHRAE 90.1-1999 Standard. The following are highlights of the 90.1-1999 Standard- applicable to those localities or projects in Arizona that use it- which pertain to lighting controls.

## INTERIOR LIGHTING.

**LOCAL SHUTOFF CONTROL.** Each space enclosed by ceiling-height partitions shall have least one control device for its general lighting. Each device shall be activated manually or automatically by an occupancy sensor. Each device shall control a maximum 2,500 ft<sup>2</sup> of floor area, be capable of overriding automatic shutoff controls for no more than 4 hours, be readily accessible, and located so occupant can see the controlled lighting.

**AUTOMATIC SHUTOFF CONTROLS.** Interior lighting in buildings greater than 5,000 ft<sup>2</sup> shall be controlled with an automatic control device to shut off lighting in all spaces. Automatic controls can be:

- time-of-day operated control device that turns lighting off at programmed times. Independent program shall be provided for areas no more than 25,000 ft<sup>2</sup> on the same floor (or)
- an occupant sensor that turns off lights no later than 30 minutes after occupant leaves space (or)
- by occupant intervention.

**ADDITIONAL CONTROLS.** Separate control devices are required in the following cases:

- Display or accent lighting;
- Case lighting;
- Hotel and motel guest room lighting, located near entry;
- Task lighting;
- Nonvisual lighting;
- Demonstration lighting.

**TANDEM WIRING.** Luminaires designed for use with 1 or 3 linear fluorescent lamps less than 30W each shall each use 2-lamp tandem-wired ballasts in place of single lamp ballasts when 2 or more luminaires are in the same space and on the same control device.

**INTERIOR POWER ALLOWANCE.** The interior lighting power allowance for a building shall be determined by either the building area (building area times allowed power density for building type) or the space-by-space method (sum of individual space allowances as determined by building type).

Power density factors for the building area method are in Table 9.3.1.1 and power density factors for the space-by-space method are in Table 9.3.1.2 of the ASHRAE 90.1-1999 Standard.

## EXTERIOR LIGHTING.

**GENERAL.** Lighting for exterior applications shall be controlled by a photo sensor or an automatic time switch that is capable of automatically turning off the exterior lighting when sufficient daylight is available or the lighting is not required.

Exceptions are lighting for covered vehicle entrances or exits from the building or for parking structures where required for safety or security.

**EXTERIOR POWER ALLOWANCES.** The exterior power allowance is the sum of the individual power densities. The individual power densities are:

- Building entrances with canopy or free standing canopy: 3W/ft<sup>2</sup> of canopied area;
- Building entrance without canopy: 33W/lin ft. of door width;
- Building exit: 20W/ lin ft. of door width;
- Building facades: 0.25 w/ft<sup>2</sup> of illuminated facade area.

Exceptions are (when equipped with an independent control device) specialized lighting associated with transportation, lighting used to highlight monuments or historical structures, or advertising signage lighting.

The above is a very brief guideline of the ASHRAE 90.1-1999 Standard, as interpreted by Douglas Lighting Controls. Note again that many localities within the State of Arizona do not use this Standard. Refer to the energy code of your local jurisdiction within Arizona for details applicable to your lighting control project.

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