

## Auto Operators: Stand-By Power



From the well-known blog [idighardware.com](http://idighardware.com), Lori Greene brings some much-needed clarity to codes.

BY LORI GREENE, AHC/CDC, CCPR

I was recently asked about battery back-up for an automatic operator after an architect noted that it was required by the 2010 ADA guidelines. The doors in question were existing bathroom doors that did not have the maneuvering clearance required for manual doors (as described in section 404.2.4), so operators were being added. Before I go any further, I should say that the 2010 ADA guidelines do not go into effect until 2012, but apparently some facilities are already using them.

Here's the section of the ADA that refers to automatic doors:

**404.3 Automatic and Power-Assisted Doors and Gates.** Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

**404.3.1 Clear Width.** Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

### **404.3.2 Maneuvering Clearance.**

Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

**EXCEPTION:** Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

### **Translation**

**404.3** – This paragraph refers to two different ANSI standards, depending on which type of operator is used. These standards contain additional information, such as requirements for safety devices, signage, opening force, and closing speed. Full-power operators, sometimes called high-energy operators, are the type that you might see on a grocery store entrance. Low-energy operators are often used on an accessible entrance or bathroom door and typically have a push button actuator. Power-assisted doors require the user to push or pull the door, and the operator reduces the opening force required to operate the door. This is different from the "push-n-go" feature on a low-energy operator, which is completely automatic once the door is pushed or pulled slightly.

**404.3.1** – According to the accessibility standards and also the egress require-

ments, most doors have to provide at least 32 inches of clear opening width. If it's a pair of doors, at least one leaf has to provide 32 inches clear. This paragraph states that 32 inches of clear opening width must be provided "in power-on and power-off mode." In some instances, I have seen a code official allow the use of automatic operators on a pair that didn't have one leaf providing 32 inches clear. I saw one of these just the other day on a 4-foot wide pair. The building was a historic house that had been turned into offices, and the auto operators created a 4-foot wide (nominal) opening when the doors were operated automatically. When I originally read paragraph 404.3.1, I thought it meant that automating a narrow pair wouldn't be an option any longer, but the last sentence seems to state that the full width of the opening will be considered, so I think this would still be an acceptable solution.

**404.3.2** – Section 404.2.4 is the part of the ADA that talks about maneuvering clearance—the space around the door that someone using a wheelchair needs in order to be able to operate the door manually. Paragraph 404.3.2 says that power-assisted doors and gates have to have the same maneuvering clearance as manual doors, which makes sense because the doors are basically operated manually but require less force. The next sentence says that doors without standby power will also need the required maneuvering clearance. Therefore, doors with standby power do not need the maneuvering clearance. If an existing door serving an accessible means of egress does not have the required maneuvering clearance and an auto operator is added to overcome that problem, the operator needs standby power (unless the door stands open on power failure

per the exception). In my opinion, if an accessible bathroom has the required maneuvering clearance on the inside (egress side) but does not have the required maneuvering clearance on the outside, standby power shouldn't be needed because the door provides an accessible means of egress without the operator. You don't have to let people into the bathroom in an emergency (unless it's a bathroom emergency). Of course, the AHJ has the final say on that. In the example used for this post, the maneuvering clearance problem is on the egress side, so the standby power is required if the 2010 ADA is being used.

Keep in mind that fire-rated doors with automatic operators are required to be deactivated upon fire alarm, so in my opinion, an automatic operator with battery back-up cannot be used on a fire-rated door to overcome the maneuvering clearance problems.

Here is some additional information from the DOJ's guidance document:

**Automatic Door Break Out Openings.**


The 1991 Standards do not contain any technical requirement for automatic door break out openings. The 2010 Standards at sections 404.1, 404.3, 404.3.1, and 404.3.6 require automatic doors that are part of a means of egress and that do not have standby power to have a 32-inch minimum clear break out opening when operated in emergency mode. The minimum clear opening width for automatic doors is measured with all leaves in the open position. Automatic bi-parting doors or pairs of swinging doors that provide a 32-inch minimum clear break out opening in emergency mode when both leaves are opened manually meet the technical requirement.

Section 404.3.6 of the 2010 Standards

includes an exception that exempts automatic doors from the technical requirement for break out openings when accessible manual swinging doors serve the same means of egress.

**Maneuvering Clearance or Standby Power for Automatic Doors.**

Section 4.13.6 of the 1991 Standards does not require maneuvering clearance at automatic doors. Section 404.3.2 of the 2010 Standards requires automatic doors that serve as an accessible means of egress to either provide maneuvering clearance or to have standby power to operate the door in emergencies. This provision has limited application and will affect, among others, in-swinging automatic doors that serve small spaces.

Commenters urged the Department to reconsider provisions that would require maneuvering clearance or standby power for automatic doors. They assert that these requirements would impose unreasonable financial and administrative burdens on all covered entities, particularly smaller entities. The Department declines to change these provisions because they are fundamental life-safety issues. The requirement applies only to doors that are part of a means of egress that must be accessible in an emergency. If an emergency-related power failure prevents the operation of the automatic door, a person with a disability could be trapped unless there is either adequate maneuvering room to open the door manually or a back-up power source. 

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**About the Author:** *Lori Greene, AHC/CDC, CCPR has been involved in the door and hardware industry since 1986. She is currently the Specification Team Lead for Ingersoll Rand Security Technologies. Lori holds a degree in Architecture and Building Engineering Technology from Vermont Technical College and is a member of the NFPA and ICC.*