The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Community Affairs

BILL:	CS/SB 264
INTRODUCER:	Community Affairs Committee and Senator Hays
SUBJECT:	Firesafety Devices
DATE:	February 6, 2013 REVISED:

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Toman	Yeatman	CA	**Fav/CS**
2.			CM	
3.			GO	
4.				
5.				
6.				

Please see Section VIII. for Additional Information:

A. COMMITTEE SUBSTITUTE.....	X	Statement of Substantial Changes
B. AMENDMENTS.....		Technical amendments were recommended
		Amendments were recommended
		Significant amendments were recommended

I. Summary:

CS/SB 264 requires any battery-operated smoke alarm, newly installed or replaced after January 1, 2014, to be powered by a nonreplaceable, nonremovable battery capable of powering the smoke alarm for at least 10 years. This requirement does not apply to an electrically operated smoke alarm, a fire alarm system with a smoke detector, a fire alarm device that connects to a panel, or any similar device that uses a low-power radio frequency wireless communication signal.

The bill amends section 633.025, Florida Statutes.

II. Present Situation:

Fire Safety and Building Provisions in Florida

The Division of State Fire Marshall, housed within the Department of Financial Services, is responsible for protecting Floridians from fire hazards pursuant to ch. 633, F.S. Under s. 633.025, F.S., the State Fire Marshall, in conjunction with each municipality, county and special district with fire safety responsibilities, adopts the most current edition of the National

Fire Protection Association (NFPA) 101, Life Safety Code. The NFPA 101 serves as a base code for the triennial development of the Florida Fire Prevention Code and Life Safety Code (Fire Safety Code). Local governments enforce the Fire Safety Code as a minimum standard although they may adopt more stringent fire safety standards within their own jurisdictions subject to requirements provided in s. 633.025(4), F.S.

The Fire Safety Code operates in conjunction with the Florida Building Code (Building Code) adopted pursuant to ch. 553, F.S. The Building Code governs the design and construction of buildings and structures in the state and is developed and modified by the Florida Building Commission (Commission).[1] The Commission maintains and updates the Building Code and its component codes for plumbing, electrical, mechanical, energy conservation, accessibility, structural, and fire systems in buildings. The Building Code, like the Fire Safety Code, is adopted every three years and utilizes international codes as a foundation for Florida's base code. Enforcement of the Building Code is also similar to the Fire Safety Code: local governments bear this responsibility and may adopt more stringent code requirements within their own jurisdictions subject to provisions.[2]

Conflicts between the Fire Safety Code and the Building Code are resolved through coordination and cooperation between the State Fire Marshall and the Commission in favor of requirements offering the greatest degree of life safety.[3] If the State Fire Marshal and Commission are unable to agree on a resolution to a conflict, the issue goes to a mediator.

Smoke Alarm Provisions in Florida Fire Safety and Building Code

The NFPA 101 Life Safety Code, adopted by the State Fire Marshal as part of Florida's minimum fire safety code, contains fire alarm requirements for both new and existing buildings.[4] For hotels, motels, and dormitories, smoke alarms are required in every guest room and living area, and every sleeping room within a guest suite. In new construction, alarms must receive their primary power from the building electrical service and also be provided with a battery backup. Existing alarms powered solely by the building electric service may remain in existing construction.

For apartments, a smoke alarm is required in every sleeping room, in the hallway or area leading to the sleeping rooms and on all levels, including basements. Alarms may be eliminated from the sleeping rooms if the building is protected by residential or quick response sprinklers.

In one-and two-family dwellings, alarms must be installed in the hallway or area leading to the sleeping rooms and on all levels, including basements. In new construction, alarms must be installed within each sleeping room. In new construction, alarms must be interconnected and

[1] Pursuant to s. 553.74, F.S., the Commission is a 25-member technical body appointed by the Governor subject to confirmation by the Senate. The Department of Business and Professional Regulation (DBPR) provides the Commission with administrative, technical, and legal support.
[2] See ss. 553.73(1)-(4) and 553.80, F.S.
[3] See ss. 553.72(5) and 553.73(1)(d), F.S.
[4] *See* Maryland Smoke Alarm Technology Task Force, *Exploring Changing Technologies to Improve Residential Smoke Alarm Performance* (August 2012) *available at* http://www.mdsp.org/LinkClick.aspx?fileticket=-XeJdci2rdw%3D&tabid=580&mid=1538. The remainder of this section of the bill analysis paraphrases the Maryland Task Force's summary of NFPA 101 requirements.

provided with both AC and battery backup power. Alarms powered solely by the building electrical service, and in certain instances by a battery, are permitted to remain in existing buildings.

The types of rooms and areas requiring smoke alarms for new construction pursuant to the Building Code are similar to those cited in the Fire Safety Code.[5] When alterations, repairs or additions requiring a permit occur, the structures or dwellings must be equipped with smoke alarms located as required for new construction. All alarms are to be hard-wired with battery back-up.

Neither the Fire Safety, nor the Building Code specifies the type of battery allowable in any smoke alarm that features a battery.

Smoke Alarm Provisions in Florida Statute

While the bulk of guidance on smoke alarms is provided through the relevant Codes, some smoke alarm provisions are provided in law. Florida Statutes require a smoke detector in guest rooms of specified public lodging establishments and time-share units.[6] The smoke detector is either connected to a central alarm system which alarms locally or is an approved listed single-station device.[7] In addition, unless otherwise agreed to in writing, landlords must install electrical or battery-operated smoke detection devices in single-family homes or duplexes.[8] A hard-wired or battery-powered combination carbon monoxide and smoke alarm may be used to satisfy some of the carbon monoxide alarm requirements of s. 553.885, F.S.

Types of Smoke Detection

Smoke Alarms vs. Smoke Detectors

"Smoke alarms" are generally recognized as not being the same as "smoke detectors."[9] Smoke alarms are self-contained, single or multi-station units which detect the presence of smoke and sound an alarm. Smoke detectors are components of a fire alarm system with a panel. The detection unit itself does not necessarily sound the alarm. Instead, the signal is transmitted to the control unit which then sounds an alarm throughout the premises.

Ionization vs. Photoelectric Smoke Alarms

[5] *See* Section R314 [2010 Florida Building Code: Residential (First Printing)] and Section 907 [2010 Florida Building Code: Building (First Printing)].
[6] See ss. 509.215(1), 553.895(1), 721.24, F.S. Parameters related to establishment or building height, corridor access, means of egress and date of construction further specify which guest rooms require smoke detectors.
[7] Section 509.215(1)(b), F.S., requires that the smoke detector meet the requirements of NFPA-74 "Standards for the Installation of Sprinkler Systems." Section 902.1 of the 2010 Florida Building Code defines a single-station smoke alarm as an assembly incorporating the detector, the control equipment and the alarm-sounding device in one unit, operated from a power either supply in the unit or obtained at the point of installation.
[8] Section 83.51, F.S.
[9] Marty Aherns, *Smoke Alarms in U.S. Home Fires*, National Fire Protection Association, Fire Analysis and Research Division (September 2011) *available at* http://www.myfloridacfo.com/sfm/pdf/NFPA_SmokeAlarmsInHomeFires_2011-09.pdf.

The two most commonly recognized smoke detection technologies are ionization smoke detection and photoelectric smoke detection.[10] Ionization smoke alarms are generally more responsive to flaming fires and photoelectric smoke alarms are generally more responsive to fires that begin with a long period of smoldering.

According to the Florida Department of Financial Services (DFS), best evidence has always indicated that either type of smoke alarm will provide sufficient escape time for most people for most fires of either smoldering or flaming type.[11] In addition to individual ionization and photoelectric alarms, combination alarms that include both technologies in a single device are available.

Battery-Operated Smoke Alarms in the Marketplace

Manufacturers currently provide smoke alarms with a variety of power sources including hard-wired with battery backup, battery-operated utilizing 9-volt batteries, and those featuring a 10-year sealed lithium battery.

Smoke Alarm Operability

A September 2011 report by the NFPA's Fire Analysis and Research Division found that almost two-thirds of recent home fire deaths resulted from fires in which no smoke alarm was present or at least one alarm was present but did not operate.[12] The report indicated that more than one-third (38 percent) of home fire deaths resulted from fires in properties with no smoke alarms at all and one-quarter (24 percent) were caused by fires in which smoke alarms were present but failed to operate. Half of the smoke alarms that failed to operate had missing or disconnected batteries.

Additional research into smoke alarm operability by the National Association of Fire Marshals Science Advisory Committee found that failure rates for smoke alarms increased with the age of the alarm.[13] This study determined that at 10 years old, approximately 30 percent of smoke alarms were inoperable.[14]

Smoke Alarm Maintenance

A number of fire safety organizations provide information related to the proper installation and maintenance of smoke alarms including the International Association of Fire Chiefs' long running *Change your Clock, Change your Battery* campaign. An example of the advice highlighted in these kinds of informational efforts can be found at the United States Fire Administrations (USFA) website on smoke alarms.[15]

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[10] Florida Department of Financial Services, *Consumer Alert: What You Should Know About Smoke Alarms* (Feb. 6, 2009) *available at* http://www.myfloridacfo.com/pressoffice/ViewConsumerAlert.asp?ID=3103.

[11] *Ibid.*

[12] Marty Aherns, *Smoke Alarms in U.S. Home Fires*, National Fire Protection Association, Fire Analysis and Research Division (September 2011) *available at* http://www.myfloridacfo.com/sfm/pdf/NFPA_SmokeAlarmsInHomeFires_2011-09.pdf.

[13] National Association of State Fire Marshals Science Advisory Committee, *Recommendation on Updates to the NASFM Smoke Alarm Guidance Document Regarding the Use of 10-Year Long-Life Batteries* (April 2012) *available at* https://www.firemarshals.org/pdf/SAC_White_paper_on_10-year_battery_FINAL_April_2012.pdf.

[14] The same study stated that NFPA 72, the National Fire Alarm and Signaling Code, first required replacement of smoke alarms after 10 years in 1999.

[15] U.S. Fire Administration, *Learn About Smoke Alarms, available at* http://www.usfa.fema.gov/campaigns/smokealarms/alarms/index.shtm (last visited Jan. 31, 2013).

The USFA's general guidelines on alarm maintenance provide the following advice:

- Smoke alarm powered by a 9-volt battery
  - Test the alarm monthly.
  - Replace the batteries at least once per year.
  - The entire smoke alarm unit should be replaced every 8-10 years.
- Smoke alarm powered by a 10-year lithium or "long life" battery
  - Test the alarm monthly.
  - Since you cannot and should not replace the lithium battery, the entire smoke alarm unit should be replaced according to manufacturer's instructions.
- Smoke alarm that is hardwired into the home's electrical system
  - Test the alarm monthly.
  - The backup battery should be replaced at least once per year.
  - The entire smoke alarm unit should be replaced every 8-10 years.

National Association of State Fire Marshals (NASFM) Science Advisory Committee Recommendation Regarding the Use of 10-Year Long-Life Batteries

In April of 2012, the Science Advisory Committee (SAC) of the NASFM recommended advising that battery-operated smoke alarms be powered by 10-year batteries.[16] A summary of the recommendation included the following further guidance.

> The SAC recommends that the smoke alarm contain the 10-year battery in a tamper resistant, sealed unit to prevent consumers from disabling the alarm or replacing the 10-year battery with a regular 9-volt battery or AA batteries, and so that both the unit and its battery would be replaced at the same time.
>
> To provide guidance to consumers who may find the cost of the 10-year smoke alarms too high to purchase for installation everywhere that fire safety professionals recommend, the SAC suggests that the highest priority should be at least one long-life battery smoke alarm per floor, including the basement. Second priority should be outside every separate sleeping area.

Recent Smoke Alarm Legislation in other States

***North Carolina*[17]**

Requires a landlord who installs or replaces a smoke alarm to use a 10-year lithium battery smoke alarm, unless the dwelling is equipped with a hardwired smoke alarm with battery backup

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[16] National Association of State Fire Marshals Science Advisory Committee, *Recommendation on Updates to the NASFM Smoke Alarm Guidance Document Regarding the Use of 10-Year Long-Life Batteries* (April 2012) *available at* https://www.firemarshals.org/pdf/SAC_White_paper_on_10-year_battery_FINAL_April_2012.pdf.

[17] *See* Research Division North Carolina General Assembly September 2012: Summaries of Substantive Ratified Legislation, *Rental Property/Lithium Battery Smoke Alarms, available at* *http://www.ncleg.net/documentsites/legislativepublications/Research%20Division/Summaries%20of%20Substantive%20Ratified%20Legislation/Summaries%20of%20Substantive%20Ratified%20Legislation%20for%202012.pdf*.

or a smoke alarm that is combined with a carbon monoxide alarm. Tenants are not required to replace the batteries on 10-year lithium battery smoke alarms.

Louisiana[18]
All existing one or two-family dwellings at the time of sale or lease shall contain at a minimum, an operable ten-year, sealed lithium battery smoke detector. Failure to comply with the provisions of the above shall not cause a delay or a stoppage in the transfer of property. In addition, the real estate agent shall not be held liable for the seller's failure to comply with the law.

Oregon[19]
Requires all ionization smoke alarms sold in the state --- which are solely battery-operated --- to be packaged with a 10-year battery. In addition, when selling a home, all smoke alarms must meet the following requirements: all ionization smoke alarms must have a hush feature and if solely battery powered must also have a ten-year battery. Any purchaser or transferee of a dwelling unit who is aggrieved by a violation of the above may bring an individual action in an appropriate court to recover actual damages or $50, whichever is greater.

III. Effect of Proposed Changes:

Section 1 amends s. 633.025, F.S., to require any battery-operated smoke alarm, newly installed or replaced after January 1, 2014, to be powered by a nonreplaceable, nonremovable battery capable of powering the smoke alarm for at least 10 years. This requirement does not apply to an electrically operated smoke alarm, a fire alarm system with a smoke detector, a fire alarm device that connects to a panel, or any similar device that uses a low-power radio frequency wireless communication signal. Conforming cross references are also made.

Section 2 provides an effective date of July 1, 2013.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

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[18] *See* Louisiana State Legislature: 2009 Regular Session, *HB 372 by Representative Nickie Monica/Act 163, available at* http://www.legis.la.gov/legis/BillInfo.aspx?i=212514 (last visited Feb.1, 2013).
[19] *See* Chapter 479-Protection of Buildings From Fire; Electrical Safety Law: ORS 479.250 to 479.300 *available at* http://www.leg.state.or.us/ors/479.html (last visited Feb. 1, 2013).

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

According to the Department of Financial Services, the number of private facilities or buildings that use battery-operated smoke detectors or alarms in Florida is unknown.[20] For those private facilities and buildings that do use these devices, it is not known how many of them currently utilize a built-in battery capable of powering the alarm for at least 10 years. People and entities installing or replacing alarms specified in the bill would incur associated costs for such installation.

The 2012 NASFM Recommendation Report states that an ionization smoke alarm with a 9-volt battery on average retails for $10-12. Sealed 10-year lithium battery-operated smoke alarms can be purchased for less than $20. Not having to purchase replacement batteries for a 10-year smoke alarm would allow private consumers to recoup the initial higher installation costs of these devices and, according to an industry representative estimate in the report, could actually save consumers money on replacement batteries that otherwise would have been purchased over the 10 years.

Manufacturers' sales of their 10-year sealed battery-operated smoke alarms would likely increase in Florida by an indeterminate amount while their battery-operated alarms powered by 9-volt sources would likely decrease by an indeterminate amount. Sales of 9-volt batteries typically used in smoke alarms would also likely decrease by an indeterminate amount.

C. Government Sector Impact:

According to the Department of Financial Services, the number of government facilities or buildings that use battery-operated smoke detectors or alarms is unknown.[21] For those facilities that do use these devices, it is unknown how many of them currently utilize a built-in battery capable of powering the alarm for at least 10 years. Governmental entities installing or replacing alarms specified in the bill would incur associated costs for such installation.

The 2012 NASFM Recommendation Report states that an ionization smoke alarm with a 9-volt battery on average retails for $10-12. Sealed 10-year lithium battery-operated smoke alarms can be purchased for less than $20. Not having to purchase replacement batteries for a 10-year smoke alarm would allow governmental entities to recoup the initial higher installation costs of these devices.

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[20] Florida Department of Financial Services, *Senate Bill 264 Analysis* (January 17, 2013) (on file with the Senate Committee on Community Affairs).
[21] *Ibid.*

VI. Technical Deficiencies:

None

VII. Related Issues:

None.

VIII. Additional Information:

A. Committee Substitute – Statement of Substantial Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

CS by Community Affairs on February 6, 2013:

- Confirms that the legislation addresses smoke alarms rather than smoke detectors.
- Clarifies that replacements of smoke alarms are required by the provisions.
- Provides conforming cross references.

B. Amendments:

None.

This Senate Bill Analysis does not reflect the intent or official position of the bill's introducer or the Florida Senate.