AGENDA ITEM #6
October 7, 2003
Action
ADDENDUM

MEMORANDUM

October 2, 2003

TO: County Council

FROM: Michael W. Cogan, Legislative Attorney

SUBJECT: Bill 25-03, *Buildings – Residential Fire Sprinkler Systems*

Committee Recommendation/Status

The Public Safety Committee recommends approval. The Council last week postponed considering the bill because you had not yet received the fiscal impact statement requested from OMB or answers from DFRS to several policy questions. On October 2, Councilmembers received the OMB statement, written answers from DFRS, and draft amendments to the DFRS fee regulation to recover more of the County's costs to implement the bill. Councilmember Floreen asked for additional information after last week's session.

Background

Councilmember Andrews, Council President Subin, and Councilmembers Knapp and Perez introduced Bill 25-03, *Buildings – Residential Fire Sprinkler Systems*, on July 22.

Current State and County laws require fire sprinkler systems in new multifamily dwellings and town houses. County law also provides a substantial property tax credit for installing sprinklers in older multifamily dwellings and town houses, and in all other residential buildings that currently are not required to have sprinklers.

Bill 25-03 would expand the sprinkler requirement to new single-family houses. The bill also would encourage retrofitting existing residences by requiring a notice about the tax credit on every residential property tax bill. Conforming changes to the tax credit provision would ensure that the credit is not available for new houses that this bill would require to include sprinklers.

Prince George's County has required sprinklers in all new residential buildings since 1989 and Rockville and Gaithersburg both adopted the requirement last year.

The Council held a public hearing on the bill on September 16 and the Public Safety Committee considered the bill on September 22.

Public Hearing

Fire Administrator Gordon Aoyagi testified on behalf of the County Executive and strongly supported the bill. See ©12. He said sprinklers save lives. He said that he is not aware of a single fire fatality in any residence with working sprinklers. He said the cost of including sprinklers in new construction is now about $1.00 to $1.50 per square foot, but the price would drop if the requirement in Bill 25-03 takes effect. He said sprinklers generally require a hydrostatic test during construction and a final inspection before occupancy. Department of Permitting Services staff who accompanying Mr. Aoyagi said this would increase staffing requirements. Councilmember Praisner asked Executive branch representatives to provide a cost estimate for the bill as soon as possible and to explain the impact that Bill 25-03 would have on municipalities in the County. Mr. Aoyagi said the U.S. Fire Administration, based in Emmitsburg, MD, strongly advocates the use of residential sprinkler systems. See ©7.

Rockville Councilmember John Hall, who has been a volunteer firefighter for many years, strongly supported the bill. See ©16. As the primary sponsor of Rockville's law (see ©8), he said the evidence is overwhelming that sprinklers save lives and reduce property damage from fires. In response to a question from Councilmember Praisner, Rockville Councilmember Hall said that Rockville's residential sprinkler requirement is partially supported by City fees, but the City subsidizes its own costs to implement the requirement with about $30,000 a year. He said the failure rate for sprinkler heads is 1 in 16 million.

In response to questions from Councilmembers, Mr. Aoyagi said sprinklers typically reduce homeowner's insurance rates by 4 to 40 percent. Rockville Councilmember Hall said a national insurance organization has said the average reduction in premiums is 15 percent. He and Mr. Aoyagi agreed that sprinkler systems cannot be triggered by cooking or other normal activities, even when those actions might set off a smoke alarm. They said sprinklers only open when triggered by flames.

At Councilmember Praisner's request, Mr. Aoyagi said he would suggest some options for fees to support increased County review and inspection costs.

Miles Haber, representing the Maryland-National Capital Building Association, opposed the bill and said sprinklers are not cost-effective in single-family homes. See ©19. He agreed with Mr. Aoyagi's estimates of the cost of incorporating sprinklers into new home construction. He said the sponsors of the bill should have consulted with his organization before introducing the bill. Mr. Haber said that homes that use wells or are in low-pressure areas would require significant additional expense to provide for sprinklers. He said some modifications could cost $15,000 or more per home.

Meredith Weisel, representing the Greater Capital Area Association of Realtors, also opposed the bill. See ©26. She said sprinkler systems are not reliable because mold and corrosion can clog sprinkler heads. She said the U.S. Consumer Product Safety Commission

website indicates that sprinklers cause mold. She said her own new townhouse includes sprinklers, but the builder did not provide any information to her about testing or maintaining the system.

Ray Whalen, community liaison for the Rockville Volunteer Fire Department, read a statement by the company's president, Eric Bernard, in support of the bill. See ©27.

Mr. Aoyagi and Chief Mike Love said they are planning a brochure for homeowners that fire inspectors would leave at a home after the final sprinkler inspection. They also agreed to prepare a fact sheet about the bill if it becomes law.

The Apartment and Office Building Association of Metropolitan Washington submitted written testimony that it said was intended to "clarify the record" about a residential sprinkler requirement. See ©10.

Mr. Aoyagi and Chief Love agreed to respond at the worksession to assertions made in testimony from BIA and GCAAR.

Discussion/Issues

The Maryland State Fire Marshal indicates that "there are no known occurrences of multiple loss of life in a fully sprinklered building due to smoke or fire." See ©30. Many fire prevention and fire fighting organizations, including the U.S. Fire Administration, actively support fire sprinklers in all new homes.

The Committee discussed several issues at the worksession with Fire Administrator Aoyagi, Chief Mike Donahue, other DFRS officials, Shariar Amiri of the Department of Permitting Services, and OMB staff.

1. Would lives and property be saved by extending the current State residential sprinkler requirement from multifamily and townhouses to single-family houses?

Testimony from the Fire Administrator and information from the Maryland Fire Marshal, the U.S. Fire Administration of the Department of Homeland Security, and many other sources have shown that residential fire sprinklers dramatically lower the risk of death, injury, and property damage from fires. Automatic sprinklers typically extinguish a fire sooner and with less water destruction than firefighters responding to an alarm. Many FRS officials and other fire prevention experts said a working residential sprinkler system is like having a firefighter "on duty" around the clock in your home.

The Committee agreed that requiring sprinklers would help save lives and property.

2. Would safety benefits be cost-effective for new single-family detached houses?

The Committee considered the cost of incorporating sprinklers into new construction of detached homes and agreed with the Fire Administrator and others that the cost would be $1 to

$1.50 per square foot. Councilmember Andrews said this is less than the cost of carpeting. Fire Administrator Aoyagi said the cost would go down even more if all new residences were required to incorporate sprinklers.

The Committee noted that the median cost of a new single-family home in the County is significantly more than $400,000.[1] As a percentage of the purchase price or monthly mortgage payment, the cost of a sprinkler system in Montgomery County is lower than many other jurisdictions that require residential sprinklers. The median price of a single-family detached house is significantly higher than the median cost of a condominium or townhouse, where sprinklers already are required under State law.

The Committee agreed that the housing cost impact of extending the current sprinkler requirement to new single-family homes is reasonable considering its safety benefits.

3. How much would it cost to implement and enforce the requirements in the bill?

The Office of Management and Budget provided a fiscal impact statement on October 2. See ©56. DPS staff said Bill 25-03 would require additional specialized permit-review personnel in DPS. The Fire Administrator noted that State law would require a qualified fire marshal to perform certain review, inspection, and enforcement functions. See ©48-49.

OMB's draft fiscal impact statement for the bill estimates the following costs and fee revenues, assuming an effective date of October 8 (FY 04 partial year), and inspection fee adjustments recommended by DFRS:

Department of Permitting Services	**FY04**	**FY05**
Costs	$108,860	$153,960
Revenues	$148,000	$263,000

Fire and Rescue Services	**FY04**	**FY05**
Costs	$635,460	$758,410
Revenues	$409,810	$819,630

The bill's net cost would be $186,510 in fiscal year 2004 and net revenues would be $170,260 in FY 2005. The excess revenue in FY 2005 would almost offset the net revenue shortfall in FY 2004.

OMB assumed the law would be in effect during only part of FY 2004, but that the partial-year costs would include certain initial capital expenses not applicable to FY 2005. OMB also assumed that permit-review fees would be the same as the current fees for sprinkler systems

[1] In 2002, the median price of a new, single-family detached house in the County was $481,286, according to the Montgomery County Park and Planning Commission.

in non-residential, multifamily, and townhouse buildings. OMB assumed that DFRS inspection fees would be adjusted as indicated in Mr. Aoyagi's October 2 memorandum.

Council staff believes that the FY 2004 costs (and revenues) for DFRS inspections might be overestimated because they assume inspections would begin on January 1, 2004. The sprinkler requirement in Bill 25-03 actually would apply to single-family houses for which a building permit is issued on or after January 1, 2004. A building permit remains valid for 6 months and can be extended for another 6 months.

Even if construction began immediately after a permit is issued, construction is not likely to be complete enough for sprinkler inspections for many weeks or months. If the average construction time is, for example, 3 months, inspections of fire sprinklers required under Bill 25-03 would not begin until the last quarter in FY 2004. Rather than a half-year of DFRS inspection costs and revenues, the actual figures probably will represent only a quarter-year during FY 2004. The permit review costs and revenues, however, could begin immediately after the bill takes effect and could amount to a half year during FY 2004, as the cost estimate assumes.

The Committee did not have the OMB cost estimate, but generally agreed that most or all of any increased costs to implement Bill 25-03 could be recovered through fee adjustments (see next item discussed below).

4. Could some or all of the County's costs be recovered through a reasonable fee or fee increase?

The current fees for a DPS permit review and an FRS inspection are each $2.00 per sprinkler head. The minimum DPS permit review fee is $115, although the average number of sprinkler heads in a single-family detached house is 30. This means that the DPS permit-review fee for an average new house would be $115 and the FRS inspection fee would be only $60.

The OMB estimate assumes adoption of the fee adjustments described in the Fire Administrator's written responses. See ©58, 46-47. Staff assumes that the proposed fee adjustments would apply to all sprinkler inspections, not just those required by Bill 25-03. It appears from the Fire Administrator's detailed responses that the costs and revenue estimates consider townhouses and single-family houses, but it is not clear whether the new fees are assumed to apply to non-residential and multifamily buildings. See ©46-47 (questions 6 and 7). If the estimate does *not* assume across-the-board adjustments, the increase could be lower because there would be additional revenue from inspections of those buildings, which already require sprinklers.

The Fire Administrator's response also includes a draft amendment to the current inspection-fee regulation to implement the proposed rates. The Council will review the amendments under method (2).[2] This will give the Council another opportunity to examine whether the proposed fee structure and increases are appropriate.

[2] Under method (2), a regulation or amendment does not take effect until the Council either approves the proposal or allows the 60-day review period (which the Council can extend) to expire.

Fire and rescue services often are viewed as public costs that are not appropriate to recover through user fees. In staff's view, this argument is reasonable for fire-fighting costs, which historically have been accepted as a community expense, but might not apply to routine construction inspections for fire code compliance. It is difficult to distinguish between the public safety purpose of a sprinkler system permit review and a sprinkler system installation inspection.

The Committee, which did not have the OMB cost estimate or proposed fee adjustment information, generally agreed that permit-review and inspection fees should partially or fully offset any increased County costs.

5. **Since the design and installation of a residential sprinkler system require a qualified professional licensed by the State, would a permit requirement for certification by the licensed professional be sufficient to partially or completely eliminate the need for additional County personnel?**

The building code generally allows DPS to accept a professional's personal certification of compliance instead of conducting its own review or inspection. See Code § 8-12(c) and (d). The Committee considered whether the County could reduce costs relying more on certifications by State-licensed sprinkler design/install professionals.

The Fire Administrator explained to the Committee that State law allows only a State fire marshal or a qualified local fire marshal approved by the State to enforce fire safety laws. (The Administrator's written response to this issue appears at ©48-49.)

Under the County Code, the professional effectively must accept legal liability for the certified system. The Fire Administrator, DPS staff, and OMB staff all agreed that no professional so far has been willing to accept this level of responsibility, so even if the County allowed a professional certification as a substitute for a fire marshal's inspection of a fire sprinkler system, it is extremely unlikely that any permit applicant would be able to take advantage of that option.

DFRS officials also noted that current inspections of commercial, multifamily, and townhouse sprinklers find enough violations to require re-inspections in about 20 percent of the original inspections.

The Committee agreed that professional certifications should not be allowed as a substitute for fire sprinkler inspections. The Committee agreed that the re-inspection rate and the practical limitations of engineer-certifications make this option unworkable even if it were allowed under State law.[3]

[3] Council staff believes there is a non-frivolous argument that State law, which exempts single-family houses from the fire sprinkler requirement, might allow professional certification or some other alternative to inspection by a qualified fire marshal. But the better legal position, in staff's view, is the interpretation offered by the Fire Administrator.

6. **Do current State or County laws require the owner of a multifamily building to install sprinklers in every unit of an older building if any one unit or common area is remodeled?**

Committee members said current building code provisions appropriately address the threshold for when construction or reconstruction requires compliance with requirements adopted after the original building was built. Bill 25-03 would not change current law governing how these thresholds apply to repair, remodeling, construction, or reconstruction of part of a multifamily building, such as one unit in a condominium or apartment building.

7. **Do sprinkler reliability concerns presented by GCAAR's testimony apply to any currently approved sprinklers that have *not* been recalled and banned for defects in design?**

At the Committee worksession, Fire Administrator Aoyagi and District Chief Michael Donahue discounted testimony by GCAAR and BIA that sprinkler heads are unreliable and can cause mold or other dangerous conditions. They said concerns about the design or construction of particular sprinkler-head models had prompted safety recalls, but the recalls do not reveal any inherent flaw in sprinkler technology generally. They said sprinklers are usually very reliable and require little homeowner maintenance when properly installed.[4]

The Committee agreed with the Fire Administrator that GCAAR's concerns on this issue are unfounded.

The Fire Administrator's subsequent written responses provide additional details about this issue and conclude, "Available information suggests that the reliability of correctly installed [home fire] sprinkler systems is such that they will function for the life of the structure." See ©45.

8. **What is the County's experience with the current residential sprinkler requirements during the last 10 years the State has required sprinklers in multifamily buildings and townhouses?**

FRS officials at the worksession said they knew of no example during the last 10 years when a residential sprinkler triggered in the absence of a fire. They said sprinklers installed in townhouses and multifamily buildings to comply with the current law so far have not caused any major problems. They said they were not aware of any problem with mold from sprinkler systems. They said fire marshals conducting pre-occupancy inspections have found sprinkler heads painted over, which can prevent proper functioning of the system.

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[4] The National Fire Protection Association code generally assumes that residential sprinkler heads will last for 50 years or more before needing replacement. With certain exceptions, NFPA Standard 25 requires inspection of sprinkler heads after 20 years and every 10 years thereafter. See www.nfpa.org/Codes/Interpretations/FAQ25/FAQ25.asp.

The Committee agreed that experience with residential sprinklers during the last 10 years supports extending the requirement as proposed in Bill 25-03.

9. How could sprinklers affect the cost of homeowner's insurance?

FRS officials disagreed with GCAAR's testimony that insurance premiums would not be affected by the addition of sprinklers. They said insurance premiums decrease by 4 to 40 percent. They said FRS will provide examples of premium discounts available locally.

The Fire Administrator has provided more detailed documentation that insurance companies generally give at least a 5-percent discount for fire sprinklers. See ©44.

The Committee agreed that homeowners would be able to recover at least some of the added cost of a fire sprinkler system through reduced insurance premiums.

10. How would the requirement work for homes served by wells?

Councilmember Floreen has reiterated a question raised during the hearing and worksession about homes that rely on well water. See ©42. The Committee did discuss this issue and was told by DFRS officials that fire sprinkler systems would not be significantly greater additional cost for well-water houses than those on a municipal water supply. Wells would require a tank larger than a house otherwise might require, but DFRS officials said this could be designed into the new home at a minor additional cost, compared to the overall cost of the home. (The Fire Administrator subsequently provided additional details about this issue in his written responses. See ©45 (question 4)).

The Committee agreed that the sprinkler requirement should not be impractical or prohibitively expensive for new homes on well water.

11. How would the elimination of homeowner property tax bills affect the tax-credit provisions of the bill?

Councilmember Floreen noted that the Executive branch has discussed sending property tax bills only to mortgage companies of those taxpayers who escrow tax payments. The Council rejected this option during your last budget debate and staff understands that the Finance Department recently solicited taxpayer input about the proposal.

Eliminating taxpayer notices for property tax bills would reduce the effectiveness of the publicity that Bill 25-03 intends to provide for the tax credit. But the Council will have some opportunity to consider this impact if and when you review any future proposal to eliminate the taxpayer bills.

12. How would the requirement apply in municipalities other than Rockville and Gaithersburg, which already have similar requirements?

Councilmember Praisner asked about the application of Bill 25-03 in municipalities. The Fire Administrator has provided a more-detailed response than Council staff's preliminary response in earlier memoranda on this bill. See ©44.

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Bill No. 25-03
Concerning: Buildings – Residential Fire Sprinkler Systems
Revised: 9/26/03 Draft No. 5
Introduced: July 22, 2003
Expires: January 22, 2005
Enacted: _____
Executive: _____
Effective: _____
Sunset Date: None
Ch. _____, Laws of Mont. Co. _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

By: Councilmember Andrews, Council President Subin, and Councilmembers Knapp and Perez.

AN ACT to:

(1) require new single-family detached houses to incorporate an approved fire sprinkler system;
(2) require property tax notices to include information about the County tax credit available for installing a fire sprinkler system in existing residential buildings; and
(3) make conforming changes and generally amend County law regarding fire safety, prevention, and suppression and tax credits to promote fire safety.

By amending
Montgomery County Code
Chapter 8, Buildings
Sections 8-4 and 8-29A
Chapter 52, Taxation
Section 52-18K

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets]	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets]]	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Section 1. Sections 8-4, 8-29A, and 52-18K are amended as follows:

8-4. Installation of service equipment.

When the installation, extension, alteration, or repair of an elevator, moving stairway, mechanical equipment, refrigeration, air conditioning or ventilating apparatus, plumbing, gas piping, electric wiring, heating system, fire sprinkler system, or any other equipment is [specifically controlled by the provisions] subject to a requirement of this [chapter] Chapter, it shall be unlawful to use [such] the equipment until the Director issues a certificate [of approval has been issued therefor by the director] approving the work.

8-29A. Residential fire sprinklers.

(a) In this [section] Section, [:]

[(1) *Townhouse* means a dwelling unit that:

a. Adjoins another dwelling unit but is divided from that other dwelling unit by a party wall or fire separation wall; and

b. Has a separate entrance that leads directly to the outdoors.]

[(2) *Fire*]

fire sprinkler system means equipment that includes [one (1)] 1 or more devices that:

[a. Open]

(1) open automatically by operation of a heat-responsive releasing mechanism;

[b. Discharge]

(2) discharge water in a specific pattern over a designated area to extinguish or control fire;

[c. Use]

(3) use the same service water supply pipe to the building that the domestic water system uses;

[d. Meet]

(4) meet the requirements of current National Fire Protection Association standards as modified by the [[director of fire and rescue services]] Director of Fire and Rescue Services; and

[e. Are]

(5) are approved by the [director of fire and rescue services] Director of Fire and Rescue Services.

[(3) Group home includes any group residential care facility, protective care home, board and care facility, halfway house, social rehabilitation facility, alcohol or drug residential treatment center, or convalescent facility.]

(b) [A] The County must not issue a building permit [must not be issued] for the construction or reconstruction of any [multiunit] residential building[, townhouse, or group home,] unless the plans include the installation in each dwelling unit and any attached accessory structure of a fire sprinkler system. [Under method (2), the County Executive must adopt regulations to implement this subsection, including inspection and maintenance requirements.]

(c) The County Executive must issue regulations [implementing subsection (b)] to implement this Section. The regulations may authorize the Director to approve the use of specific construction alternatives that [will achieve] provide equivalent or greater protection of the public in residential buildings in which fire sprinkler systems will be installed.

[(d) Before a contract for construction or sale is signed, the builder of each detached single- family dwelling unit must offer to install, at the buyer's

54 option, a fire sprinkler system that complies with this Section. The
55 builder must list the fire sprinkler system as an option on sales
56 brochures, and the builder or an agent must provide each buyer point-of-
57 sale information that clearly and fairly explains the benefits and costs of
58 the sprinkler system.]

59 [(e) (1) The builder of each subdivision that contains more than 4
60 detached single-family dwelling units must install in the primary
61 sales model a fire sprinkler system that complies with this
62 Section before any model home is shown to a prospective buyer.

63 (2) If the primary sales model is sold or otherwise cannot be shown
64 to prospective buyers, the builder must install a fire sprinkler
65 system that complies with this Section in another model home in
66 the subdivision.

67 (3) Before a building permit is issued, the Director of Fire and
68 Rescue Services must approve plans and specifications for
69 installation of a fire sprinkler system that complies with this
70 Section in each model of dwelling unit that will be built in the
71 subdivision.]

72 **52-18K. Property tax credit - fire sprinkler systems.**

73 (a) A taxpayer may receive a one-time property tax credit against the
74 general county tax for any [detached single-family dwelling unit, and
75 any attached dwelling unit or multi-family] <u>residential</u> building in which
76 a fire sprinkler system was not legally required to be installed, if an
77 approved [complete automatic] <u>fire</u> sprinkler system [that is used for
78 fire protection] is installed on or after July 1, 2000.

79 (b) For each [dwelling unit or multi-family] <u>residential</u> building where a
80 sprinkler system is installed, the credit must not exceed the lower of:

81 (1) the total cost of installing the sprinkler system; or
82 (2) 50[%] <u>percent</u> of the general county property tax attributable to
83 the [dwelling unit or] <u>residential</u> building.
84 (c) The Department of Finance must administer this credit <u>and include with</u>
85 <u>each residential property tax bill a notice of the availability of the credit</u>
86 <u>and where to obtain more information</u>.
87 (d) A taxpayer must apply for the tax credit in the year the sprinkler system
88 is installed to receive the credit in that tax year or the next tax year. The
89 taxpayer must:
90 (1) show that the installed sprinkler system complies with codes and
91 standards established by the State Fire Prevention Commission
92 and any applicable County building and fire safety codes, and
93 (2) document the cost to the taxpayer of the sprinkler system.
94 (e) The County Executive may adopt regulations under method (2) to
95 implement this Section.
96 (f) The Executive must report annually to the County Council on the use of
97 this tax credit.
98 **Sec. 2. Transition.**
99 The amendments to Section 8-29A of the Code made by this Act apply to
100 residential building permits issued on or after January 1, 2004.

101 *Approved:*

102

Michael L. Subin, President, County Council Date

LEGISLATIVE REQUEST REPORT

Bill 25-03, *Buildings – Residential Fire Sprinkler Systems*

DESCRIPTION:	Applies current requirement for residential fire sprinkler systems in town houses and multifamily dwellings to all residential buildings. Requires tax bills to include notification of the tax credit available for retrofitting existing houses with fire sprinklers.
PROBLEM:	State law requires residential fire sprinkler systems in new multifamily dwellings and town houses, but not in new one- and two-family homes. Homeowners rarely use a current County property tax credit that can pay up to 100 percent of the cost to refit an existing home with a fire sprinkler system because few homeowners seem aware of the credit.
GOALS AND OBJECTIVES:	To require fire sprinkler systems in all new residential buildings and encourage sprinkler retrofitting for existing residences by publicizing the availability of a property tax credit.
COORDINATION:	The Department of Permitting Services issues the initial building permits that would trigger the sprinkler installation requirement.
FISCAL IMPACT:	To be requested.
ECONOMIC IMPACT:	To be requested.
EVALUATION:	To be requested.
EXPERIENCE ELSEWHERE:	Approximately 50 local governments require fire sprinklers in all new residential buildings, including Rockville, Gaithersburg, and Prince George's County in our region of the State.
SOURCE OF INFORMATION:	Michael W. Cogan, Council Staff, 240-777-7900.
APPLICATION WITHIN MUNICIPALITIES:	To be researched.
PENALTIES:	Failure to comply with the requirements of a building permit is a Class A violation and grounds for a "stop work" order or revocation of the permit.

Department of Homeland Security
Federal Emergency Management Agency
U.S. Fire Administration
Working for a Fire Safe America

Release Date: June 18, 2003
Contact: Tom Olshanski, USFA (202)-646-3068

U. S. Fire Administrator Develops National Residential Sprinkler Strategy to Save Lives

Emmitsburg, MD -The United States Fire Administration (USFA) and national fire protection professionals, who met recently to develop a national residential sprinkler strategy, have agreed to advocate localized fire suppression in high-risk areas of the home- such as the kitchen - and develop an aggressive plan for advocating residential sprinklers in buildings supported by the federal government.

These strategies were developed during a meeting held at the National Emergency Training Center (NETC) in Emmitsburg, Md. The meeting was intended to bring professionals together with a goal of developing and implementing policies that identify and remove barriers to the acceptance and use of residential sprinkler systems.

"We know how important residential sprinkler systems are," said R. David Paulison, USFA Administrator. "Every year, more than 3,000 people lose their lives in home fires, and most of those deaths are among the elderly, the disabled, the low income and the very young. Sprinkler systems are one way to reduce that number and to save the lives of community residents served by the Nation's fire service."

The U.S. Fire Administration advocates the installation and use of automatic fire sprinklers to save lives, reduce injuries and protect property and believes that, based on a history of proven success, should be used in all residential occupancies.

The specific proposed national strategies are:

- Develop an aggressive strategy for advocating residential sprinklers in occupancies influenced or supported by the federal government,
- Advocate localized fire suppression in high risk areas (e.g., kitchens) for retrofit applications,
- Provide advocacy and informational support among stakeholders including state and local decision makers, and
- Ensure that the USFA continues to support research and development in residential fire sprinkler technology.

In addition, several tasks related to these strategies were identified by the group and will be considered for future programs. For the most current information, visit us at www.usfa.fema.gov.

USFA is a part of FEMA. Both USFA and FEMA are a part of the Department of Homeland Security.

Last Updated: June 27, 2003 01:15 PM EDT

An official web site of the Department of Homeland Security
and the Federal Emergency Management Agency
U.S. Fire Administration, 16825 S. Seton Ave., Emmitsburg, MD 21727
Voice: (301) 447-1000 FAX: (301) 447-1052

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CITY OF ROCKVILLE
NEWS RELEASE

DATE: September 26, 2002

CONTACTS:
Neil H. Greenberger, Public Information Manager 240-314-8115
Nikki Hawkins, Public Information Specialist 240-314-8116

Rockville to Require Fire Sprinkler Protection For All New Single-Family Homes

City Joins Less Than 50 Jurisdictions Nationally That Mandate The Safety Measure For Every Residential Dwelling

ROCKVILLE, Md., Sept. 26, 2002—The Mayor and Council of Rockville have unanimously adopted a revision of the City's building code that will require all new single-family homes to be equipped with fire sprinkler protection systems. The measure, which became effective upon adoption at the General Session of Monday, Sept. 23, makes Rockville one of less than 50 jurisdictions nationally that unconditionally require sprinkler systems for new homes.

According to the Residential Fire SafetyInstitute, only 46 jurisdictions nationally require fire sprinklers for all new home construction. Prince George's County, which has had a similar ordinance since 1988, is the only other Washington metropolitan area jurisdiction to require sprinklers in all new homes.

The measure will only apply to new construction and will not be retroactive to existing single-family housing. It will not apply to additions to existing homes. However, if a home is substantially demolished and rebuilt, the rebuilt structure would be required to have sprinklers. Rockville already requires sprinkler systems for multi-family dwellings and townhouses.

City Councilmember John Hall Jr., a volunteer firefighter and paramedic who has been active in Montgomery County Fire and Rescue for 13 years, proposed the measure this past summer. A public hearing on Sept. 17 did not draw any speakers for comment. Hall was joined in the 5-0 vote to adopt the measure by Mayor Larry Giammo and Councilmembers Bob Dorsey, Susan Hoffmann and Anne Robbins.

"This Mayor and Council is concerned about public safety, and this is a smart, efficient and effective measure that proves that," said Councilmember Hall. "The numbers do not lie and the evidence is overwhelming: fire sprinklers save lives. We, as a Mayor and Council, are willing to step forward and invest in the future and safety of Rockville residents. We are taking a bold step—and we hope other jurisdictions will follow."

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Hall convinced the Mayor and Council to move forward with the requirement by citing substantial statistical evidence that fire sprinklers save lives. According the National Fire Sprinkler Association, there has not been a single fire fatality in a residence with a sprinkler system in either Napa, Calif., or Cobb County, Ga., since the inception of sprinkler programs in those jurisdictions. There has not been a single fire fatality in Prince George's County in a residence with a sprinkler system since 1988. Scottsdale, Ariz., credits sprinkler systems with saving up to 52 lives since it passed a sprinkler ordinance in 1985.

It is estimated that sprinkler systems will add about $1.20 per square foot in new residential homes. That would add approximately $3,500-4,000 to the cost of a new 3,000 square-foot home.

Rockville residents with sprinklers already in their homes, and those that will in the future purchase homes with sprinkler systems, are reminded to check with their insurance agents about how sprinklers affect their coverage.

# # # #

9

APARTMENT and OFFICE BUILDING
ASSOCIATION of
METROPOLITAN WASHINGTON

Written Testimony Presented to the
County Council of Montgomery County, Maryland
September 16, 2003
By
Lesa Noblitt Hoover
On The Behalf Of The Members
Of The
Apartment and Office Building Association
Bill 25-03, Buildings – Residential Fire Sprinklers Systems

The Apartment and Office Building Association (**AOBA**) is the leading membership organization representing commercial and multi-family residential real estate in the Washington Metropolitan Area. AOBA is composed of organizations that own an/or manage commercial and multi-family residential properties, as well as companies who provide products and services to the real estate industry. The combined portfolio of AOBA's membership is over 113 million square feet of office space, and 166.000 residential units in the District of Columbia, Maryland and Virginia. Over 90,000 units and 20 million square feet are located in Maryland. For the Metropolitan Washington area, AOBA is the local federated chapter of the International Building Owners and Managers Association (BOMA), and the National Apartment Association (NAA).

The AOBA members do not take a position on sprinkler requirements for single- family dwellings. AOBA does wish to clarify for the record several items of concern.

Referencing Draft 4.

1. On page 3, 8-29A (b) – This section refers to "reconstruction" of any residential building. AOBA believes it is important to clarify that reconstruction refers only to the dwelling unit in which the fire occurred or where the percentage of the damage would trigger a code update to a particular dwelling unit. We do not want to see this provision interpreted in such a way that it could require an entire building to be retrofitted with a sprinkler system. AOBA has been assured this is not the intent, but would like that intent stated on the record for legislative history should the intent of the language ever come into question.

2. On Page 4 section 52-18K Property tax credit – fire sprinkler systems
AOBA has been working with the Fire Marshal's Office to seek ways to encourage the installation of sprinklers into existing residential high-rise buildings. The existing tax credit was discussed. It was determined that owners are unable to take advantage of this credit because it requires not short of a full retrofitting of a sprinkler system. While searching for ideas to encourage owners to take advantage of this tax credit, it was recommended that the tax credit be amended to allow for a less than "complete" system. While the word

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Phone: (202) 296-3390 ■ Fax: (202) 296-3399 ■ E-Mail: webmaster@aoba-metro.org
URL: http://www/aoba-metro.org

"complete" in line 77 has been deleted, language is needed to clearly state that an "approved equivalent alternative" system would qualify for the tax credit.

AOBA supports the changes to the tax credit section of the law with the above modifications.

Bill No. 25-03, Buildings – Residential Fire Sprinkler Systems

Good morning. I am Gordon Aoyagi, Fire Administrator, Montgomery County Fire and Rescue Service. I represent the County Executive and the men and women of the fire service in strongly supporting and endorsing the adoption of Bill No. 25-03 requiring the installation of sprinkler systems in new single family detached residences.

Why we need residential sprinkler systems.

Residential sprinklers save lives.

Each year almost 4 to 5,000 Americans die in home fires and more than 25,000 are injured. The US Fire Administration reports that 80% of all fire deaths and 72% of all injuries occur in residential fires. The US has the highest fire record of deaths and property loss of industrialized countries. Surely a county as technologically advanced as we are could do more to keep our homes safe.

Within three minutes from bursting into flames, a fire may consume the walls, ceilings and contents of the room where it started. The combination of heat and toxic effects of carbon monoxide can kill everyone in the room. The fire can double every 30 seconds.

Sprinklers have successfully limited fires to the area of origin 96% of the time. They have proven to reduce overall property damage by 50 to 60% or more. Each residential sprinkler responds independently, resulting in fires rarely spreading beyond the room of origin. Sprinklers use less water and reduce related property damage. Residential fire sprinklers use as little as 10-18 gallons of water per minute. When fire and rescue personnel arrive, the hoses used discharge a minimum of about 150 gallons per minute to manually suppress the fire for a small house fire.

In Montgomery County, for CY2002, we experienced 263 fires in single family dwellings. Over the last three years, more fire fatalities have occurred in single family dwellings than any other occupancy. Of our total civilian fire casualties during these years, our fire investigations indicated that more than 80% were conscious at the time of injury. The thermal and toxic assault of fire cause immediate death or debilitation. Residential sprinklers provide the advantage of immediate suppression and timely response.

We commend the leadership of Councilman Andrews and the co-sponsors for introducing the bill. The use of residential sprinklers will save lives.

- A Residential Fire Safety Institute study indicates that the chances of surviving a fire are 50% with a working smoke detector. The chances are improved to 97% with a working smoke detector and a sprinkler system.
- A NIST study estimates that fire sprinklers, used in combination with smoke detectors, could reduce the fire death rate by 82%. With a current residential fire

death rate of 8.1 deaths per 1000 fires, the potential lives saved are very significant.

- Scottsdale, Arizona officials estimate that, since enacting their sprinkler legislation, 13 lives have been saved as a direct result of fast acting residential sprinkler systems.
- In Prince Georges County, since implementation of their sprinkler legislation, they have experienced **NO** fire deaths in dwellings with operating sprinkler systems. They experienced 1 death, but the system was turned off.
- In Montgomery County, between January 1, 2001 and January 5, 2002, 13 people died in fires in single family homes. Working sprinkler systems in these homes may have saved many of, if not most, all of these people.
- Current cost experience with home sprinkler systems in new construction places the cost between $1.00 and $1.50 per square foot (U.S. Fire Administration, 7/2003).

Sprinklers save property.

On an annual basis, over $8 to $10 billion dollars in lost property occurs as a result of fire.

- The Residential Fire Safety Institute estimates that property damage to homes with residential fire sprinkler systems is 9 times lower than in non-sprinklered homes.
- In Scottsdale, during the last 3 years the average fire loss in homes with sprinklers was $2,166. In non-sprinklered homes the average fire loss was $45,019. In Scottsdale, the difference in property loss was 95% less in a residence with sprinklers.
- In Scottsdale, a review of 44 residential fires found that 90% were controlled by 1 or 2 activated sprinkler heads.
- In Montgomery County, residential sprinkler systems will help reduce the extent of fire damage in rural areas, where fire crews have longer travel distances and water supply must be established for fully involved fires.

Sprinklers are cost effective.

The estimates for installation of residential sprinklers in new structures is about $1.00 to $1.50 per square foot.

- The Residential Fire Safety Institute reports that fire sprinkler systems added to new residential construction accounts for 1% or less of the total building costs for a new home.
- In Scottsdale, Arizona, based upon a study of the required residential sprinkler system law, their experience indicates that the cost of installing a residential sprinkler system will drop over time with market competition and as contractors gain experience with sprinkler systems. In Scottsdale, in 1986, sprinklers cost

$1.14 square foot to install. By 1996, the cost had decreased to $0.59 square foot to install. (47.8% decrease).

- The Scottsdale study also indicates that homeowners experienced an average of 10% annual savings in homeowners insurance. In other areas of the country, there was a savings of 4 to 40% in annual insurance premiums when sprinklers were retrofitted into multi-family units as reported by the US Fire Administration.

Sprinklers save lives, save property and save money. It's the right thing to do.

State & County Code Requirements

Maryland State and Montgomery County law direct the fire department to inspect and approve the installation and operation of all code-required fire protection sprinkler systems. Consistent with this direction, the MCFRS Division of Fire Code Enforcement inspects and approves **all** sprinkler systems required under Montgomery County Code. This includes mercantile, industrial, health care, educational, multi-family residential, town homes, and other occupancies.

- The proposed changes to the County Code, 8-29A(a)(5) require that fire sprinkler systems be approved by the Director of Fire and Rescue Services.

- Chapter 22 of the Montgomery County Fire Safety Code, Section 22-25(a), states that "It shall be unlawful to occupy any building, structure or any portion thereof until all required fire protection systems have been tested, accepted and approved by the appropriate county official."

- Maryland State Law, Article 38A, § 47(c)(2) states that "the system will be in compliance with standards and regulations developed and adopted by... [A] fire administrator having responsibility for code enforcement. (Fire Laws of Maryland, Supp. 11/90, p.132)

Inspection Process

The MCFRS, state and national authorities, such as NFPA, regard the inspection process as a critical component of ensuring occupant fire safety, no less important than the adequate engineering and design. In Montgomery County, the Division of Fire Code Enforcement has developed recognized expertise in fire sprinkler system compliance inspections. Unlike the sampling techniques or installer certifications used for other building systems, County Fire Code requires that 100% of a fire sprinkler system and other fire safety systems be inspected and verified.

- Each residential sprinkler installed will require 2 inspections:
    1. an initial hydrostatic inspection when the inspector checks all piping for size, proper installation and location of sprinkler heads, leaks and plan deficiencies, and in non-hydranted areas, adequately-sized pressurized water tank capacity; and

2. a final inspection to verify installation according to requirements, water hook-up, valving, sprinkler head operation. We are proposing that we also *check smoke detectors and leave a home owner's fire safety guide during this final inspection.* .

- Historical data for townhouse inspections indicate that approximately 10-15% of units will need additional re-inspections after the initial hydrostatic inspection. Experience indicates that at program start-up, this rate will be about 20%, but drop off to a rate of about 10%.
- Data from the MNCPPC, for the years 1998 – 2002, housing completions averaged 2,000 units per year. Development capacity data indicates that the County can expect at least another 11 years of new residential expansion development at this rate.

When residential sprinklers are installed, they need to inspected and maintained to ensure they will perform to protect our families and property.

Thank you for your support of this important legislation that will keep our communities and citizens safe.

Honored Members of the Council, my name is John Hall and I am a Member of the City Council for Rockville, Maryland. I am also a volunteer firefighter and paramedic here in Montgomery County. I am here to testify in support of Bill 2503, and to thank each of you, and especially Councilmember Andrews, for your leadership and initiative in protecting the lives and property of the people of Montgomery County.

1. On September 23, 2002, the Rockville City Council unanimously passed an ordinance which I had introduced the previous summer. That ordinance required that automatic fire suppression systems be installed in all new residential construction, including single-family homes. Fewer than 45 other jurisdictions in the country have the same requirement.

2. In 2001, 10 people died in residential fires in Montgomery County; 6 people died in such fires in 2000; 4 died in 1999; and only 3 in 1998. In just over three years, the number of fire fatalities had more than tripled when the Rockville City Council determined to take action on this issue.

3. Sprinklers save lives, and the evidence is overwhelming. To my knowledge, there has not been a single residential fire fatality in a residence with a functioning sprinkler system, ever.

   A 1984 report by the National Institute of Standards and Technology estimated that the effect of adding fire sprinklers could reduce the number of fire fatalities by 63 percent. An NFPA analysis of national data, collected from 1983 to 1992, indicates the number of fire deaths per 1,000 fires was reduced by 57 percent in homes with sprinklers.

But, residential sprinklers also reduce property loss. The evidence here is also dramatic. Nationally, average property loss in homes with sprinklers is 38% lower than homes without sprinklers, according to a NFPA survey of home fires reported to fire departments from 1983-1992. In the case of Scottsdale, Arizona, the numbers are even more impressive. Scottsdale's tracking data show that the average loss in a home with sprinklers has been $1,382; prior to Scottsdale's adoption of its sprinkler ordinance, it was $17,067.

4. The installation of fire sprinklers in new residential construction is estimated to make up around 1% of the total building cost. That's about the cost of new carpeting. While some would find the cost of sprinklers to be significant, so are the benefits:

* Sprinklers offer a package of protection that is far broader than what can be achieved by smoke detectors. With sprinklers, you're protecting not only lives, but also property, furnishings, and all the intangibles of residential security and peace of mind.

* Sprinklers achieve these benefits with proven automatic technology. Like other state-of-the-art automatic restraint systems (e.g. airbags), they don't rely on human behavior to prevent accidents and loss. The vast majority of all residential fires today are estimated to have behavioral causes – like careless smoking, unattended cooking, or children playing with fire. While we cannot design adults who never smoke carelessly or children who don't hide in the closet after they have accidentally set a fire, we can design

sprinkler systems to control the results of this behavior.

* Finally, sprinklers reduce the severity of the fires to which my firefighting brethren respond – and that reduces the danger to firefighters and complexity of response.

For all of these reasons, I urge the Council's favorable adoption of the proposed Bill 2503, and I thank you again for your abiding concern for the health, safety, and welfare of the people of this County.

MARYLAND-NATIONAL CAPITAL BUILDING INDUSTRY ASSOCIATION
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Classic Community Corporation
JOLENE ZANGARDI
IDI-MD Inc

Testimony of the Maryland National-Capital Building Industry Association
before the County Council of Montgomery County, Maryland regarding
Bill 25-03, Buildings – Residential Fire Sprinkler System

September 16, 2003

Mr. President and members of the County Council, I am Miles Haber with Monument Construction Inc. I am here today representing the Maryland-National Capital Building Industry Association (MNCBIA). The MNCBIA represents over 725 firms working throughout suburban Maryland and the District of Columbia. Our builder members take pride in the homes they build, seeking to create neighborhoods that are safe, constantly focused on providing homes that can enhance the quality of life of those who live in them.

The building industry has strived to work with the County on issues that impact the quality of housing in the County. Because of the history of working together on such issues, we must express our deep disappointment that we were not involved in the any of discussions that occurred prior to drafting of this bill. Had there been such a discussion, we would have asserted that while fire sprinklers are an effective fire suppression system and that they do save property, but more importantly, smoke alarms save lives.

Had there been some discussion we would have been able to point out that since sprinklers became a mandatory option in Montgomery County, fewer than 20 new home sale buyers have elected to purchase sprinklers.... *despite* the fact that there was a tax credit available that could have offset the cost .... *despite* the fact that the cost could have been amortized over 30 years, for a few dollars a month.

We would have confirmed that the costs for sprinklers does average @ $1.50 a square foot, but that the costs increase when 'sprinklering' an unfinished basement because copper pipe must be used, and that additional costs are incurred when the water pressure is too low, as it is in several/some parts of the County, so that the cost isn't an easy $4,800 for 2400 finished square feet + 800 unfinished square feet. We would have asked ' ... and what of homes on wells?'

We could have noted our concern of imposing a measure on

unsuspecting new homebuyers who are often scrambling to qualify to purchase, no matter how much their household income is, because historically, new homebuyers are stretching to qualify, to purchase as much 'house' as they can squeeze and that every decision to purchase, or not purchase an option, is agonizing and based on the needs of their individual family.

We would have emphasized that the additional cost of sprinklers, for the first-time detached home buyer, reduces the range of choices because qualifying to purchase is often as little as $20/month. We would have also asked how this mandate would impact the construction cost allowance of detached MPDUs, currently set at $56,820 and the income ceiling set @ $52,000 for a family of 4.

We would have voiced our concern that Fire and Rescue Services is currently requiring a two-week lead to schedule inspections. We would have had clarified who would be doing the close-in inspection and the final inspection and whether the resources are in place, so that there would be no delays in obtaining a use-and-occupancy permit.

We would have listed all the code changes that have made homes safer as well as products that have reduced the risk of fire such as improved electrical systems and heating systems, framing and blocking techniques, improved fire ratings on interior furnishings and building materials – all which result in better fire containment and which in turn provides more time to escape and extinguish the fire. We would have pointed out that the overwhelming majority of fire fatalities occur in older housing stock (pre 1972) – and that 50% of the housing stock in Montgomery County was built before 1972.

We would also have discussed ... how the number of fire deaths that originated in the home has decreased by 45.6% between 1979 to 1999, and that the drop can be attributable to many fire safety features in new homes ... we would have emphasized the need for public education because smoking continues to be the number one cause of fatal residential fires, and bedrooms and living rooms are where nearly half of all fire deaths occur ... Sprinklers require the acceptance of an inherent risk that many homeowners, often, do not wish to incur, the risk of losing insurance coverage in the event there is leakage[1]. Yes, sprinklers systems today are more sophisticated than those installed 5-10 years ago BUT there has been three national recalls[2] of 60 million faulty sprinkler heads by the Consumer Product Safety Commission ... sprinkler systems do require twice yearly flushing, and replacement of sprinkler

[1] Several articles [copies attached] in The Washington Post within the last 12 months have reported that insurance companies are canceling insurance policies once a water-related claim has been filed, and that brokers are often advising their clients to not only not file a claim but to also increase the deductibles.
[2] U.S>Consumer Product Safety Commission Recall Notices are attached

heads every 7-10 years – manufacturers of smoke alarms had to develop a hard-wire system because so many people removed their beeping batteries – how will sprinkler owners maintain their systems?

We would have emphasized that the National Association of Home Builders, our parent organization ... supports consumer fire safety education and cost-effective residential fire protection technologies ... opposes mandatory fire protection systems, which are not cost effective, including residential sprinkler systems ...and that further, consumers have decided time and time again that this is not a construction application that they want mandated.

We support a voluntary program and we support a renewed effort to publicize the tax credit available to the homeowner if he were to elect to purchase a system. We support allowing the homeowner to make the choice whether he wishes to incur the cost, potential benefit vs risk of sprinklers. For these reasons we oppose Bill 25-03.

Thank you for the opportunity to appear before you.

Attachments

NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs Washington, DC 20207

FOR IMMEDIATE RELEASE
October 14, 1998
Release # 99-008

Company Phone Number: (800) 896-5685
CPSC Consumer Hotline: (800) 638-2772
CPSC Media Contact: Ken Giles, (301) 504-7052
Central Contact: Anne Buchanan, (800) 775-8718

CPSC, Central Sprinkler Recall Omega Fire Sprinklers; Settle Lawsuit

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission (CPSC) and Central Sprinkler announced today the nationwide recall of approximately 8.4 million Omega brand fire sprinklers manufactured since 1982 by Central Sprinkler Corp. and its subsidiary, Central Sprinkler Co., of Lansdale, Pa. CPSC alleges that Omegas are defective and could likely fail in a fire. This recall announcement follows the resolution of the lawsuit filed by the Commission staff against these companies on March 3, 1998.

CPSC alleges that, on average, between 30 and 40 percent of Omegas removed from various locations across the country for testing failed to activate as they should. In some buildings, all Omegas tested failed to activate. CPSC is warning consumers that they are at risk of bodily injury or death and should have Omegas replaced as soon as possible. CPSC is urging consumers to take immediate action to determine whether the buildings where they live and work are equipped with Omegas, and if so, to call the Omega Sprinkler Recall Hotline to participate in the recall. Properly functioning fire sprinklers save lives when a fire occurs. With the Omega sprinklers, this line of defense may not be there when it is needed most.

CPSC has received reports of Omega sprinklers not functioning in 17 fires. At least four persons suffered injuries, including burns and smoke inhalation. Over $4.3 million in property damage has been reported. The fires occurred between 1990 and the present in Arizona, California, Florida, Georgia, Indiana, Maryland, Massachusetts, Michigan, New York, Pennsylvania and Texas. In some cases, the sprinkler directly above the fire failed to operate.

Omega fire sprinklers are installed in homes, schools, hospitals, dormitories, nursing homes, prisons, offices, hotels and other buildings as well as federal buildings, including the Smithsonian Museums and the U.S. Capitol, which house many of the country's historical artifacts. Omegas have been or are being removed from many state and federal buildings, including the White House. As part of the settlement agreement, Central has asked Underwriters Laboratories to withdraw its listing of approval for all Omega brand fire sprinklers.

Consumers themselves should be able to determine whether their homes or other buildings are equipped with Omega fire sprinklers. On most models, consumers will be able to see three flat round metal disks stacked one above the other with a small space between each disk. Consumers should not attempt to unscrew the sprinkler or shut down their sprinkler system to determine if they have Omegas. Central will send consumers a packet of information to help them identify the sprinklers involved.

The recall of the Omega sprinklers includes models referred to or marked as follows:

- C1 (or C-1)
- C1A (or C-1A)
- C-1A PRO (or C1-A PRO)
- C1-A PRO QR

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NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs Washington, DC 20207

FOR IMMEDIATE RELEASE
August 4, 1999
Release # 99-152

Company Phone Number: (800) 866-7807
CPSC Consumer Hotline: (800) 638-2772
CPSC Media Contact: Ken Giles, (301) 504-7063

CPSC, Mealane Corp. Announce Recall of Star Fire Sprinklers

WASHINGTON, D.C. - In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Mealane Corp. of Philadelphia, Pa., is voluntarily recalling up to 1 million "Star" brand fire sprinklers manufactured from 1961 through 1976. These sprinklers could fail in a fire, exposing the public to bodily injury or death. These sprinklers have been installed nationwide, primarily in nursing homes. They also may be found in hospitals, schools, resorts, stores, office buildings, warehouses and supermarkets.

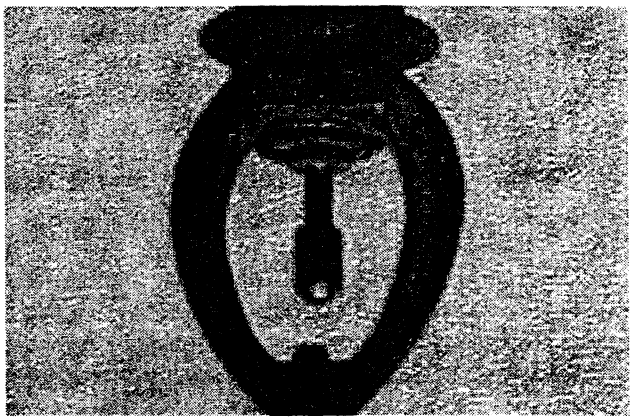
CPSC reports that 67 percent of the sprinklers that were removed from locations across the country and submitted for testing to independent testing laboratories, such as by Underwriters Laboratories and Factory Mutual Research Corp., failed to activate as they should. CPSC has received one report of a Star sprinkler allegedly not functioning in a bedroom fire in a nursing home.

The Star sprinklers being recalled are dry-type models D-1, RD-1, RE-1, E-1 and ME-1 made from 1961 through 1976. The name "Star" appears on the sprinkler, along with the model number and date of manufacture. With "dry-type" sprinklers, portions of the pipe do not have water in them until the sprinkler activates. The former Star Sprinkler Co., of Philadelphia, Pa., sold its assets and changed its name in June 1976 and became known as Mealane Corp.

The Joint Commission on Accreditation of Healthcare Organizations, an independent, not-for-profit organization that evaluates and accredits hospitals and other long-term-care facilities, is supporting the recall with CPSC.

Consumers and property owners should determine whether their facilities contain these recalled sprinklers and if so, call the Star Sprinkler Recall Hotline at (800) 866-7807 or access the website at www.star-recall.com to participate in the recall. Mealane will provide free replacement sprinkler heads and reimbursement for the labor costs of removing and replacing the old units.

CPSC is continuing its ongoing investigation of fire sprinklers.



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NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs Washington, DC 20207

FOR IMMEDIATE RELEASE
April 25, 2003
Release # 03-117

CPSC Consumer Hotline: (800) 638-2772
CPSC Media Contact: Ken Giles, (301) 504-7908

CPSC Warns Consumers to Replace Star ME-1 Dry Fire Sprinklers Made by Sprinkler Corporation of Milwaukee *-- Administrative Lawsuit Settled, Firm Financially Unable to Conduct Recall --*

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission (CPSC) today is warning consumers regarding approximately 400,000 Star ME-1 dry fire sprinklers manufactured from 1983 through 1995 by Sprinkler Corporation of Milwaukee, Inc. (SCM), formerly known as Star Sprinkler Corporation. CPSC warns that these sprinklers present a safety risk and should immediately be replaced. This warning follows the resolution of an administrative proceeding filed by CPSC on October 9, 2001, in which CPSC alleged these sprinklers are defective and are likely to fail to operate in a fire, thereby exposing consumers to the risk of death or serious injury. CPSC reports that samples of Star ME-1 dry sprinklers removed from several locations and tested by independent testing laboratories did not operate as intended. CPSC has received reports of two failures involving Star ME-1 dry sprinklers. One report involved a 1976 sprinkler, and the other, sprinklers installed in 1990.

Because SCM is no longer in operation and has no assets, it is unable to conduct a recall, so no free replacement or refund is available for its sprinklers. Nevertheless, SCM urges building owners to follow CPSC guidance by inspecting the sprinkler systems in their buildings and replacing any Star ME-1 fire sprinklers manufactured from 1983 through 1995.

SCM's Star ME-1 sprinklers have the following information molded onto the sprinkler: the name "Star," the designation "ME-1," and the year of manufacture starting with 1983 and ending with 1995. These sprinklers were typically installed in areas of buildings where the sprinklers or water supply pipes may be subject to freezing. Examples of such areas include unheated attics, freezers and coolers, porches and parking garages. The types of facilities in which the sprinklers were installed include nursing homes, convalescent and long-term care facilities, supermarkets and other stores, warehouses, hospitals, and office buildings.

Replacing these sprinklers also complies with the requirements of the recently revised "National Fire Protection Association (NFPA) 25: Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems." Specifically, NFPA 25 now advises that all dry sprinklers that have been in service for 10 years or more should be immediately replaced or tested. Star ME-1 fire sprinklers produced before 1994 are specifically subject to this requirement. Although not subject to the revised standard, Star ME-1 fire sprinklers produced from 1994 through 1995 also should be replaced because, according to CPSC, over time, they can cease to operate effectively in a fire.

For more information about testing and replacing dry type fire sprinklers, visit NFPA's Web site at www.nfpa.org. For more information on the SCM Star ME-1 fire sprinklers, call CPSC's Hotline at (800) 638-2772 or visit the National Fire Sprinkler Association's Web site at www.nfsa.org

This notice applies only to Star ME-1 fire sprinklers with manufacturing dates from 1983 through 1995. The following firms are recalling Star ME-1 fire sprinklers produced before 1983 and after 1995. Further information

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NEWS from CPSC

U.S. Consumer Product Safety Commission

Office of Information and Public Affairs Washington, DC 20207

Note: there is an update to this voluntary recall

FOR IMMEDIATE RELEASE
Originally issued July 19, 2001
Revised May 28, 2003
Release # 01-201

Notice Packet Request Hotline: (800) 871-3492
CPSC Consumer Hotline: (800) 638-2772
CPSC Media Contact: Ken Giles, (301) 504-7052
Central Media Hotline: (866) 836-3929

CPSC, Central Sprinkler Company Announce Voluntary Recall To Replace O-Ring Fire Sprinklers

WASHINGTON, D.C.- The U.S. Consumer Product Safety Commission (CPSC), and Central Sprinkler Company, an affiliate of Tyco Fire Products LP, of Lansdale, Pa., are announcing a voluntary replacement program. The company will provide free parts and labor to replace 35 million Central fire sprinklers with O-ring seals. The program also includes a limited number of O-ring models sold by Gem Sprinkler Company and Star Sprinkler, Inc. totaling about 167,000 sprinkler heads.

Central initiated this action because it discovered the performance of these O-ring sprinklers can degrade over time. These sprinkler heads can corrode or minerals, salts and other contaminants in water can affect the rubber O-ring seals. These factors could cause the sprinkler heads not to activate in a fire. Central is providing newer fire sprinklers that do not use O-ring seals, and is voluntarily launching this program to provide enhanced protection to its sprinkler customers. This is the third largest replacement program in CPSC history.

"I am pleased that Central is voluntarily undertaking this major program proactively to replace sprinklers nationwide and protect consumers from the risk of fire," said CPSC Chairman Ann Brown.

Central will provide free of charge replacement sprinkler heads and the labor needed to replace the sprinklers. Central will arrange for the installation by using either its own Central Field Service crews or by contracting with professional sprinkler contractors.

This replacement program includes two kinds of sprinklers, "wet" and "dry." "Wet" sprinklers are installed in piping that is filled with water. "Dry" sprinklers are used in areas that may be exposed to very cold temperatures and the exposed piping does not contain water. Central has received 4 reports of "wet" sprinklers failing to activate during a fire and 9 similar reports on "dry" sprinklers. These incidents resulted in two property damage claims against Central.

The sprinklers were installed nationwide in a wide variety of buildings, including houses, apartments, hospitals, day care facilities, schools, dormitories, nursing homes, supermarkets, parking garages, warehouses, and office buildings.

Central manufactured 33 million "wet" sprinklers with O-rings from 1989 until 2000 that are covered by this program. Central also manufactured 2 million "dry" sprinklers with O-rings from the mid-1970's to June 2001 that are covered by this program. The program also covers 167,000 sprinklers with O-rings manufactured by Gem Sprinkler Co. and Star Sprinkler Inc. from 1995 to 2001. A listing of all the models covered under this voluntary replacement program is attached to the end of this release.

The fire sprinkler heads have the words "CENTRAL" or "STAR", the letters "CSC", the letter "G" in triangle, or a

GCAAR
GREATER CAPITAL AREA ASSOCIATION OF REALTORS®

TESTIMONY OF THE *GREATER CAPITAL AREA ASSOCIATION OF REALTORS®*, BEFORE THE MONTGOMERY COUNTY COUNCIL REGARDING BILL 25-03, ENTITLED, ~~"*RECORDATION TAX – USE OF FUNDS.*"~~ "BUILDINGS - RESIDENTIAL FIRE SPRINKLER SYSTEMS"

SEPTEMBER 16, 2003

Council President Subin and members of the council, I appear today on behalf of the Greater Capital Area Association of REALTORS® ("GCAAR") – the voice of Montgomery County's nearly 6,000 REALTORS®, property managers, title attorneys and other real estate professionals. On behalf of GCAAR, I would like to express some concerns we have with Bill 25-03.

First, GCAAR would like to point out that we are not advocating against installing fire protection systems like sprinklers, but instead we believe the decision should rely solely with the homebuyer. Sprinklers are seen as a valuable fire containment tool but we are concerned that Bill 25-03 does not provide the single-family homebuyer an opportunity to make an educated decision by weighing the pros and cons of installing this type of system. Instead Bill 25-03 would have it be a mandatory requirement for all new homes to be built with a sprinkler system.

Second, GCAAR would like to point out that most insurance companies do not provide a discount for installing a sprinkler system. In fact, many will not cover any flood damage that is caused by a faulty sprinkler system or even if the sprinklers have gone off in order to extinguish a fire. Further, in recent years, studies have shown that sprinklers tend to build-up bacteria and mildew and have the potential to develop leaks.

Third, GCAAR would like to point out that unfortunately, sprinklers have a tendency to decay over time. Since the sprinkler heads can corrode or other contaminants in the water like bacteria and mildew can build-up, there is a strong possibility they may not turn on during a fire. GCAAR believes that the only fire safety device that should be mandatory is smoke alarms (detectors). The Consumer Product Safety Commission ("CPSC") has produced in several languages a report entitled "Smoke Alarms (Detectors) Can Save Your Life." Yet, even within the past 5 years there have been major recalls of sprinkler heads by the CPSC.

Finally, according to the CPSC's 2002 Annual Performance Report Saving Lives and Keeping Families Safe, which was put out in February 2003, the CPSC was still studying the problems with long-term sprinkler performance and addressing the issues of corrosion and long-term reliability of sprinklers.[1] GCAAR is also in the process of addressing the issue of obtaining homeowner's insurance and how premiums are affected by the installation of sprinklers. Therefore, GCAAR respectfully requests that the council continue to allow sprinklers to be installed at the voluntary option of the homeowner and allow the county to continue promotion of the property tax credits available. Thank you for your consideration of GCAAR's perspective on Bill 25-03.

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[1] US Consumer Product Safety Commission 2002 Annual Performance Report Saving Lives and Keeping Families Safe, http://www.cpsc.gov/ABOUT/gpra/02perfrpt.pdf, p.34.

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Ray Whalen
Community Liaison

Statement of Eric N. Bernard, MFS
President
Rockville Volunteer Fire Department Inc.
Before the Montgomery County Council
September 16, 2003

I am Ray Whalen, the Community Liaison for the Rockville Volunteer Fire Department. I am here to read a statement for the President of the Department who could not attend today.

Ladies and gentlemen, council members and fellow citizens, good afternoon. My name is Eric N. Bernard, and I am the President of the Rockville Volunteer Fire Department of Montgomery County. I apologize that I am not here in person, but as a Professor at the George Washington University Graduate School of Forensic Science, the Dean sets the schedule for me and today is only our third class of the semester, far to early for the Professor to cancel class.

The Rockville Volunteer Fire Department is one of the largest, and most diverse, well trained, and progressive volunteer fire departments in this country. I am speaking today on behalf of the officers and members of this department.

Today, the council has an opportunity few truly ever get to do. Few have the awesome responsibility of having the life of another in their hands. Our council has that opportunity now, today, to save a life, your child's life, your spouse's life, or maybe even your own life.

The problem of fire has plagued civilization since its discovery. We, the fire and rescue community have worked diligently and tirelessly promoting fire safety, awareness and education. At our four stations in Rockville, our paid and volunteer professionals respond to over 24, 000 calls a year for help. Each year, our community suffers the devastation of residential fires where one, or in some cases more than one, fellow citizen dies in their home due to a fire.

There is nothing more difficult, nothing more frustrating, nothing more tragic, and in most cases nothing more preventable than a fatality due to fire.

That's correct, PREEVENTABLE! The fire department is telling our citizens we can prevent a needless tragedy in our community. How? How, you ask? The answer is before our trusted leaders today.

Councilmember Phil Andrews, Council President Mike Subin, and Councilmember Mike Knapp have taken the initiative and skill to draft legislation to require, yes REQUIRE all new single family homes to have a residential sprinkler system installed.

This one step, a small cost in relation to our largest purchase most of us ever make, will save lives. There is no question to debate. Lives will be saved.

In my over 22 years of continuous emergency service to the community, I have been unable to hypothesize, imagine, or dream of any reason why all homes should not have a residential sprinkler system. There is no argument anyone could make to explain why this bill should not be passed immediately. In fact, here are a few FACTS of a long list of why it MUST be passed:

1. The US has one of the highest fire death rates in the industrialized world.
2. Between 1992 – 2001 an average of 4,266 Americans died in their homes due to fire, and another 24,913 injured.
3. An average of 100 firefighters are killed each year in duty-related incidents, 70% of the volunteers.
4. Each and every year, fire kills more Americans than ALL natural disaster, COMBINED.
5. In 2001, over $10.6 billion dollars in direct property loss were incurred, NOT including the tragic 9-11-01 events.

As is plainly evident, we have a fire problem in the US. We can do something about it, though. You know, the most often question I think I get from citizens as a fire service leader is what, what can I do. What can the average person do to help? My answer has always been the same. Install and test smoke detectors, carbon monoxide detectors, practice escape drills, and install a residential sprinkler system if you don't have one.

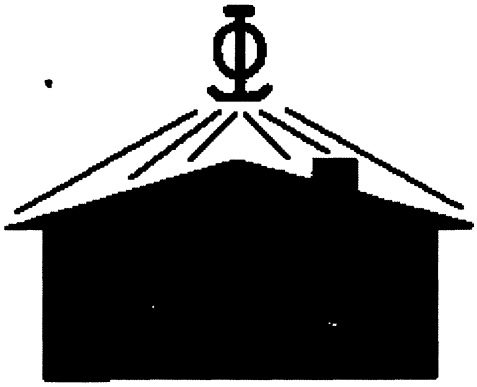
If your doctor prescribes you medicine for an illness to get well, you would take it. When your roofer tells you need a new roof or you'll get wet, you put on a new roof. When a fire and rescue executive tells you to install a residential sprinkler system, you should!

In closing, let me pose an analogy. The government several years ago made it mandatory that we all wear our seatbelts when driving. This is an example of good government. It's been many years, but still, we have many traffic fatalities, but the numbers are half of what they were. Compliance was recently touted at 78%. That's 78% of all Americans wear their seatbelts. Now here at The George Washington University if one of my graduate students completes my courses with a 78% score, they will be failing the program. This is an unacceptable score. With the legislation before you today, you will make it mandatory for all new single family homes to be built with a residential sprinkler system. Compliance will be 100%. Even in my courses, that's an A. Councilmembers, give our community an A, give our citizens an A, and by-goodness, Councilmembers Andrews, Subin, and Knapp, give yourselves A's for proposing this legislation!

Thank you!

Maryland State Fire Marshal

RESIDENTIAL SPRINKLERS



• What Are Residential Sprinkler Systems?

With newly designed sprinklers and standard household piping, homes can now be built or even remodeled to include low-cost automatic residential sprinkler systems connected to a domestic water supply.

Residential sprinklers are designed to respond to a fire much faster than currently available standard commercial or industrial sprinkler systems. These new residential sprinklers react automatically to fire -- nearly five times faster than standard sprinklers.

There are many advantages of using residential sprinklers. For example:

- Residential sprinkler systems offer a low cost reliable safety option that attracts many home buyers.
- Residential sprinklers will either extinguish a fire or control it until the arrival of the fire department.
- Residential sprinkler systems help to eliminate flame and smoke by controlling a fire quickly. This in turn reduces the danger of burn injuries and the build up of deadly carbon monixide poisoning.
- Residential sprinkler systems can be installed in a home for approximately $1.00 per square foot. In some instances the cost is even less.
- Residential sprinklers allow the use of alternative building design and construction materials - which can significantly off set the cost of sprinklers.

• What Kind of Record Do Sprinklers Have?

Excluding those deaths caused by explosion or flash fires, there are no known occurrences of multiple loss of life in a fully sprinklered building due to smoke or fire.

Residential sprinklers help to save lives and reduce property damage because sprinklers are designed to operate in the area of fire origin. Normally, only the sprinkler that is closest to the fire will activate. Statistics have shown, that in residential fire situations, usually one sprinkler can control a developing fire.

Families with children, senior citizens, and handicapped individuals have turned to residential sprinklers to provide them with added fire protection.

Tests of new residential quick-response sprinkler systems, designed for use in single-family homes and multi-family dwellings, in typical home fire scenarios, revealed that the sprinklers responded in as little as 35 seconds completely extinguishing the fires.

• Are Insurance Discounts Available When Residential Sprinklers Are Used?

Insurance discounts vary depending on the type of coverage. Discounts currently range between 5-30%. Generally, over a period of time, the annual savings gained through insurance discounts help pay for the residential sprinkler system.

• Are Residential Sprinklers The Sole Answer To Maryland's Fire Problems?

No. There is no one single cure for Maryland's Fire and burn problem. There are, however, several things that can be done to make our State a more fire safe place to live, work and play. Here are some of the tips that may help stop a fire from starting or help you to survive one should it occur.

- If you must smoke, don't smoke in bed.
- Install and maintain Smoke Detectors in your home. Remember - smoke detectors are now required in every dwelling by Maryland Law.
- Plan and practice Exit Drills In The Home with your family. Make sure everyone knows two ways out.
- If you get caught in smoke DO NOT panic. Stay low to the floor where the air is better and crawl to a clear exit.
- To report a fire or other emergency in Maryland dial "911".
- Install residential quick-response sprinklers in your home.

For further information about residential sprinkler systems, contact your local fire prevention bureau or the Maryland State Fire Marshal's Office.

"The simple concept behind the quick response residential sprinkler system is to put water on the fire sooner, while it is still small. Thereby controlling or extinguishing the fire, reduce fire and water damage, reduce the smoke and toxicity problem and thus save lives and prevent serious injury from fire.

With this new technology such systems are now feasible and cost effective. We urge all Marylanders to seriously consider having such a system installed in their homes and apartments to protect their loved ones from fire.

William E. Barnard

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washingtonpost.com

Fire Sprinklers Proposed for New Houses in Montgomery

By Fredrick Kunkle and Michael H. Cottman
Washington Post Staff Writers
Tuesday, July 22, 2003; Page B05

A Montgomery County Council member will introduce legislation today to require built-in fire sprinkler systems in all new residential construction, including single-family homes.

If the county adopts the measure drafted by Phil Andrews (D-Gaithersburg), Montgomery would become the largest locality with such a requirement, according to U.S. Fire Administration and industry officials.

"Sprinkler systems can be the difference between life and death for county residents," Andrews said at a news conference yesterday.

County Executive Douglas M. Duncan (D) also voiced his support. "This small device, with a small price tag -- when apportioned over the life of a mortgage -- can have a huge impact on the safety of one's family, especially considering that the most vulnerable residents in a fire are children under the age of 5, adults 65 and older and pets," he said.

The legislation could meet some resistance from home builders, who say the systems add costs without necessarily improving safety.

"Sprinklers do not save lives; they save property," said Raquel Montenegro, associate director of legislative affairs for the Maryland National Capital Building Industry Association. "Sprinklers are not the most effective way to save lives."

Montenegro said that most residential fire-related deaths occur as a result of smoke inhalation and that victims often die from breathing toxic fumes before sprinklers are activated.

Because the cost of sprinklers would vary from home to home, Montenegro said, the decision to install them should be left to consumers, not mandated by the county. "The problem is there are no fixed costs," she said.

John A. Viniello, president of the National Fire Sprinkler Association, said the cost of installing sprinklers is about $1.50 per square foot, and they can be hooked up to the house's regular plumbing. Sprinklers also can lead to discounts of 10 percent to 15 percent on homeowners' insurance premiums, Viniello said.

For years, sprinklers have been widely used in apartment buildings, commercial buildings and other multi-family homes, but they are still relatively rare in single-family homes.

The Fire Administration says more than 400 communities -- including Prince George's County -- require sprinklers in new single-family homes. Most laws typically do not require existing homes to be retrofitted.

"We would love to be able to require sprinklers in a residential environment," Arlington County Fire Chief Edward P. Plaugher said. But under Virginia's form of government, localities cannot enact stricter fire codes than the state's, he said.

Fires kill more people than all other natural disasters, such as floods, hurricanes, tornadoes and earthquakes combined, and U.S. Fire Administrator R. David Paulison said Friday that he plans to push for broader application of residential sprinklers throughout the nation.

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Andrews said his bill will also encourage retrofitting existing dwellings with a rarely used county property tax credit that can pay up to the full cost. The idea drew his attention after Rockville and Gaithersburg enacted such laws and because of the string of arsons in the District, Prince George's and Montgomery counties, he said. The County Council will hold a hearing on the legislation this afternoon.

Fire sprinklers have been in use in the United States since the 1800s, appearing first in New England cotton mills, said Viniello, president of the sprinkler trade group.

In the late 1970s, San Clemente, Calif., became the first city to require sprinklers in single-family detached residences, Fire Administration officials said.

Scottsdale, a Phoenix suburb of about 203,000 residents, enacted a law, which took effect in 1986, requiring residential sprinklers, and officials there have documented a significant drop in loss of life and property since then. One study found that average property loss in homes with sprinklers was an estimated $17,200. Without sprinklers, the loss was an estimated $116,000.

Prince George's adopted its ordinance requiring sprinklers in all new homes in 1987, said Capt. Chauncey Bowers, a fire and emergency medical services spokesman.

The law, which took effect in 1992, is credited with saving 235 lives and more than $22 million in property losses, he said.

Industry and public officials say residential sprinklers could replicate the success of smoke detectors, which were seldom heard of in the 1960s. By 1993, 92 percent of all U.S. homes had them, and they helped reduce fire-related deaths from 9,000 a year to about 3,500, Paulison said. Because 80 percent of all fire-related fatalities occur in the home, sprinklers could reduce the number.

"You can rebuild a home, but you can't replace lives," Paulison said.

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Residential Sprinklers Described

Sprinklers
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- Answers to Home Builders
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"The Best Life Safety Device Ever Invented"

All about residential fire sprinklers	Some facts about fire sprinklers
Sprinkler questions?	Shopping for a sprinkler contractor
Answers to home builders objections	Multipurpose systems

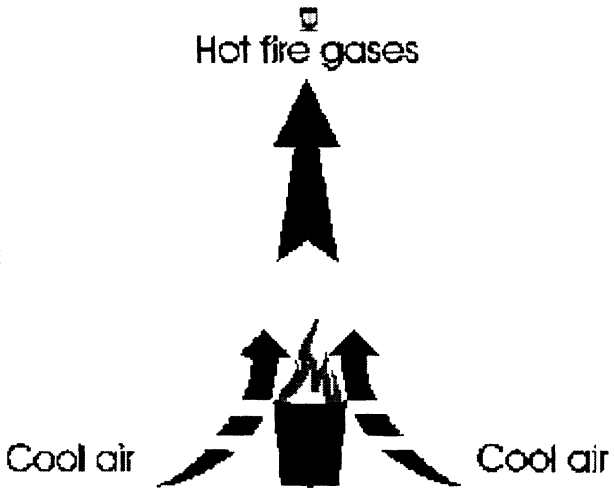
All about residential fire sprinklers

You never know when or where a fire will start in your home. What if you could have a firefighter stationed in every room 24 hours a day, ready to stop a fire the minute it broke out? That is what fire sprinklers are - instant firefighters. They are installed in the ceiling or high on a wall and are attached to the same water supply that feeds your home's plumbing fixtures. Residential fire sprinklers are small. In fact, they fit in so well that you have to point them out for people to notice them.

You already have water running throughout your home to sinks, showers, toilets and washing machines. Fire sprinklers use the same water to extinguish a fire. Average-sized rooms only need one sprinkler. For a close-up view of a sprinkler, see how a fire sprinkler works.

A sprinkler is similar to a hose nozzle because it breaks the stream of water into a fine spray. The sprinkler does not release the water until it is heated by a fire. A tight metal seal over the waterway holds the water back. The cap is held in place by either a glass bulb or metal link. Both are very rugged but are designed to melt in the high heat of a fire.

The illustration to the right shows a sprinkler with a glass bulb over a fire in a wastebasket. The fire consumes the oxygen in the surrounding air. The burning creates a narrow plume of smoke and hot gases (e. g., carbon dioxide and unburned carbon monoxide) that rise to the ceiling. When the hot gases reach the ceiling, the heat plume begins to spread out toward the walls. When the hot gases reach the nearest sprinkler, they will heat the fusible element that holds the cap in place. The cap will fall away and the sprinkler will spray water on the fire. Because the



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water immediately cools the hot fire gases in the plume, the other sprinklers won't open because there is not enough heat to melt their fusible element.

In a small number of fires, the burning material produces too much heat for the nearest sprinkler to handle. The adjacent sprinklers then act as backups. If the fire is so hot that the water from one sprinkler cannot cool it, the hot gases will reach the next nearest sprinkler. Then that sprinkler will open to stop the fire. This design of opening only when there is enough heat limits the number of sprinklers to what is needed to stop the fire. Fire records show that 93 percent of of fires are handled by only one sprinkler. In the remaining cases, two sprinklers handled an additional four percent. It took three sprinklers to handle nearly all of the remaining 3 percent. Keep in mind that these figures include large warehouses storing highly combustible goods that generate tremendous heat. In these cases, more than one sprinkler may be necessary to spray enough water to stop the fire. In homes and apartments, it is rare to have more than one sprinkler operate, so the number of fires controlled by one sprinkler in residences is nearly 100 percent.

By cooling the fire gases rising from the fire, the sprinkler prevents the fire from reaching the flashover stage. Flashover is a dangerous point in a fire where everything in the room reaches its autoignition temperature and breaks into flame. This occurs after the gas layer has spread to the walls and begun to bank down toward the floor. The radiant heat from flashover ignites all of the combustible items in the room at once, pushing heat and smoke into other rooms.

Once the water from the sprinkler has stopped flashover, the spray will begin reaching the the burning material and cooling it to below its combustion temperature. Then it can no longer burn and the fire goes out. Responding firefighters will shut off the sprinkler once they are sure that the fire is completely out.

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Sprinkler Facts

Sprinklers save lives.

Sprinklers are the most effective fire safety device ever invented. Look at this comparison with smoke alarms and with no fire protection at all. The National Fire Protection Association reports that people with smoke alarms in their home have a 50 percent better chance of surviving a fire. Adding sprinklers and smoke alarms increases your chances of surviving a fire by over 97 percent.

Sprinklers save property.

Residential fire sprinklers are designed to save lives, but because they control fires so quickly, they also reduce property damage. Fire reports show that property damage is nine times lower in sprinklered homes.

Sprinklers are affordable.

Fire sprinklers add about one percent or less to the cost of a new home. This is about the same cost as upgrading carpeting. But carpets need to be replaced every ten years, while fire sprinklers last for the life of the home. Compared with the cost of carpeting, fire sprinklers give you peace of mind for a bargain price. Multipurpose

systems that serve the sprinklers and plumbing with the same pipe may lower the cost even more.

Lifetime safety is lifetime quality.

The features of your home reflect your values and priorities. You select high-quality items for things that you want to last. Fire safety is a quality issue, too. Fire sprinklers will protect your family for the life of the home. You can ignore the issue and accept the minimum level of safety for your family and possessions, or you can build in quality fire protection for them.

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Sprinkler Questions

Will sprinklers leak?

Sprinklers and their piping are pressure-tested at two to three times higher than your plumbing system, even though they use the same pressure as your plumbing. Therefore, the chance of a leaking sprinkler is practically nil. Like your plumbing pipes, sprinkler pipes are not exposed to cold areas so they are protected from freezing. They do not leak because, unlike faucets and other fixtures that are operated often throughout their lives, fire sprinklers remain closed until needed and thus do not receive the wear and tear of daily use.

Won't all the sprinklers in the room go off at the same time?

As the graphic above explains, the heat from a fire will open the nearest sprinkler. Its water cools the hot fire gases, making it impossible to open other sprinklers. Thus, in nearly all cases there is not enough heat to open the next nearest sprinkler. In the rare case that the heat is too much for the nearest sprinkler, the next nearest sprinkler will open to overcome the fire. The operation of more than one sprinkler occurs in a small percentage of commercial buildings, but is very unlikely in homes. Thus, only the sprinklers necessary to stop the fire will operate, and fire records show that it usually takes just one.

Why, then, do people think that all of the sprinklers in the room go off at the same time? There are two reasons. First, Hollywood gag writers show all of them going off for comic effect. They have shown this happening from someone merely lighting a cigar or pulling a fire alarm switch. Those action cannot even make one sprinkler open, let alone all of them.

The second reason is that a lot of people mistakenly think that smoke will open a sprinkler. They have seen smoke spread throughout a room, so they conclude that smoke affect all of the sprinklers in the room. But once people understand that:

- Only heat can open a sprinkler (smoke can't melt metal or burst glass) and,
- Only a threatening fire can generate enough heat to open a sprinkler,

then they understand that all of the sprinklers won't open at the same time, even in a smoky room.

Aren't they unsightly?

Residential fire sprinklers are much smaller than ones that you see in stores and offices. All residential models come in colors to match popular ceiling and wall

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colors, and manufacturers will even custom-paint them for you. Many models are partially recessed into the ceiling, and only 1/4"-3/4" is below the ceiling. If you want them completely recessed, these models are also available. The fully recessed models are hidden by a cover plate that is painted to match the ceiling. The cover is held in place by a metallic link that melts in a fire and exposes the sprinkler.

It is common to find that visitors do not notice the sprinklers at all unless you point them out, even the ones that are not recessed into the ceiling.

Won't the water create more damage than the fire?

One of the myths about sprinklers is that they will cause water damage. While this may seem logical (after all, they spray water), fire records show that the reverse is actually true. Here is why. A residential fire sprinkler sprays about only 10-18 gallons of water per minute and operates early in a fire to stop the burning. A hose used by firefighters flows ten times that amount, 175-200 gallons a minute. If sprinklers are not present, fires typically burn for an additional 10-15 minutes until firefighters arrive and begin spraying it with their hoses. Two things happen to cause more damage than sprinkler. First, more of your possessions have burned up before the firefighters intervened, and then you have 10 times more water being sprayed on what is left at a very high pressure.

The combination of the sprinkler's quick response, the smaller water flow and lower pressure significantly reduce water and property damage. Think about it. What is more damaged, a sofa that can de dried off (sprinklered fire) or one that has turned to ashes (manual suppression)? How about an oil painting that was protected by a fine spray (sprinklered fire) or one where all that was left was part of a frame (manual suppression)? Without sprinklers, the heat and smoke from a fire travel very quickly, damaging the furniture and possessions throughout the house. With sprinklers, the sprinkler nearest the fire will stop it before it can develop the damaging heat and smoke.

You can install an alarm to alert you when a sprinkler opens and water starts flowing. The alarm will also alert neighbors, and you can have it monitored by an alarm company so they can call the fire department if no one is around.

Can I install them myself?

Only qualified contractors should install fire sprinklers. They will know how to install the system in compliance with national standards, which ensures that the spacing is correct and an adequate water supply is available. Also, fire sprinklers have different operating temperatures and flow patterns. You need someone knowledgeable who can select the correct sprinkler for each area of the home.

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Shopping for a fire sprinkler contractor.

Fire sprinkler contractors should be listed in the Yellow Pages under "Fire Sprinklers," and they often advertise under "Sprinklers" as well. It is always better if you know someone who had sprinklers installed and can refer you to a contractor. If you are starting from scratch, though, a general caution is in order. Like any service, you will find contractors who are extremely competent and fair, and you will find those who are not necessarily so. Some states have contractor licensing laws to help weed out bad contractors. But not all states have such laws and their effectiveness in the states that do varies. Your best assurance is to get several bids

and then diligently check opinions of past customers.

If you can, visit the homes of a contractor's past customers or a home that is under construction. If some sprinklers appear to be crooked instead of perpendicular to the ceiling or wall, or if there are gaps around the escutcheon plate (the metal trim ring around the sprinkler that covers the hole in the ceiling or wall), these indicate a sloppy installation and/or an inexperienced installer. Quality contractors pride themselves on sprinklers being perfectly straight and trim.

An important factor to consider is a contractor's experience with *residential* fire sprinklers. There is a critical difference between residential sprinklers and commercial types, and the last thing you want is someone installing the wrong ones. In some areas of the U. S., sprinklers are just getting introduced into single-family homes. If this is the case, even highly experienced contractors may not be familiar with the residential type. Also, contractors with experience installing sprinklers in homes will treat the space like their home, taking extra care not to damage anything.

One way to check a contractor's experience is to ask what installation standard he uses. In the U. S., the correct standard for single family homes and duplexes is the National Fire Protection Association's (NFPA) Standard 13D, usually referred to as NFPA 13D. This covers both site-built and manufactured homes. If they refer to NFPA 13 or 13R, keep shopping. Standard 13 governs sprinklers in non-residential structures and residential buildings higher than four stories. Standard 13R applies to multi-family residential (apartments, condos) up to four stories.

The edition of the standard is important, also. They are updated every few years to reflect the latest developments in new technology and efficiencies that reduce cost. The most recent edition of NFPA 13D is 1999, and a new revision should be available in late 2002. There is no valid reason for a contractor to be using an outdated edition.

Next to experience and competence, pricing is the next biggest issue. For a home with a standard floor plan (as opposed to a unique or complex layout) that is located in an area where several contractors are doing single-family work, prices can be expected to be under $1.00 per square foot of habitable space to slightly over $1.00. The lowest we have heard is 57 cents a square foot. If a home has a complex floor plan or unique features, the price may be higher because additional sprinkler might be needed to provide the proper coverage. If you want sprinklers in unheated spaces (garages, attics), the cost will be higher if that part of the system needs to be freeze protected (usually with approved antifreeze). The NFPA standards call for freeze protection in any area where the temperature is likely to drop below 40F.

Another factor affecting price is competition. In areas with a lot of single-family sprinkler work, the costs are about one half that of areas with fewer installations (and thus fewer contractors who do this work). One caveat, though. If there is a lot of work but not enough contractors, they will tend to quote higher prices for new work because they already have all the jobs they can handle.

Specialization is another factor. Contractors who specialize in single-family residential work tend to be lower priced than other sprinkler contractors. For one thing, they have learned efficiencies that cut both installation time and materials. In a competitive environment, you can expect that they will pass these savings on to the customer in the form of lower bids. For another, they have a lower overhead than contractors who do large commercial jobs. A high overhead can literally double the amount of a bid.

Lastly, prices will depend upon the prevailing labor rates in your area. If you live in an area with relatively high or low labor rates, then this will be reflected in bids on residential sprinklers. An exception might be a contractor who does his own work.

For a complete geographic list of sprinkler contractors, visit the RFSI member address of www.sprinklernet.org." (http://dbase.sprinklernet.org:591/members/index.html)

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Department of Homeland Security
Federal Emergency Management Agency

U.S. Fire Administration

Working for a Fire Safe America

For the Fire Service For the Public Inside USFA

Press Release

Release Date: July 15, 2003
Contact: Tom Olshanski, USFA
(301)-447-1853

Report on National Residential Fire Sprinkler Initiative Available

Encourages Installation of Sprinkler Systems to Reduce Damage and Losses from Fires

Washington, DC - The United States Fire Administration (USFA) released a report today that outlines an agreement between the administration and national fire protection professionals advocating the use of fire suppression and sprinkler systems. The report, titled *National Residential Fire Sprinkler Initiative*, outlines specific national strategies that might reduce the number of deaths due to home fires each year. In particular the report draws attention to the aspect of localized fire suppression in high-risk areas of the home and residential sprinklers in buildings supported by the federal government.

"We know how important residential sprinkler systems are," said U.S. Fire Administrator R. David Paulison. "Every year, more than 3,000 people lose their lives in home fires, and most of those deaths are among the elderly, the disabled, the low income and the very young. Sprinkler systems are one way to reduce that number and to save the lives of community residents served by the nation's fire service."

The specific national strategies resulting from this meeting are to:

- Develop an aggressive strategy for advocating sprinklers in residential buildings influenced or supported by the federal government,
- Advocate localized sprinkler systems as a means of fire suppression in high risk areas (e.g., kitchens) for retrofit applications,
- Provide advocacy and informational support among stakeholders including state and local decision makers, and
- Ensure that the USFA continues to support research and development in residential fire sprinkler technology.

Related to these strategies, several tasks were identified by the group and will be considered for future programs, including conducting additional national level meetings and forming two coalition groups of partners. One would be a federal group to effect proposed changes in federally subsidized, leased and owned residential units, and the other, an allied professional group to address the differences between sprinkler advocates and adversaries.

Download

National Residential Fire Sprinkler Initiative - PDF Format (345 Kb)

National Residential Fire Sprinkler Initiative - Word Format (252 Kb)

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Format (252 Kb)

National Residential Fire Sprinkler Initiative - Text Format (52 Kb)

On March 1, 2003, FEMA became part of the Department of Homeland Security. FEMA's continuing mission within the new department is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages Citizen Corps, the National Flood Insurance Program and the U.S. Fire Administration.

Last Updated: August 12, 2003 11:45 AM EDT

An official web site of the Department of Homeland Security
and the Federal Emergency Management Agency
U.S. Fire Administration, 16825 S. Seton Ave., Emmitsburg, MD 21727
Voice: (301) 447-1000 FAX: (301) 447-1052

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MEMORANDUM

September 30, 2003

TO: Public Safety Committee

FROM: Nancy Floreen, Councilmember

RE: Residential Fire Sprinkler System

During the review by the Council today on Bill 25-03 Buildings-Residential Fire Sprinkler Systems, I had two questions that were not addressed during the discussion. I want to be sure they are part of the next worksession on the legislation.

There is a recommendation to require notice of the tax credit be sent out with the residential property tax bills to encourage retrofitting of existing residences. However, my understanding is that we, as a cost saving measure, may not be sending property tax bills out to those homeowners whose mortgage companies pay the taxes. There would be a problem here.

I am also concerned that this legislation did not offer an adequate option for those residents who rely on well water. It is incumbent upon us to ensure that there are alternatives in the bill for these homes. If the water pressure in a particular area or a well system does not allow for a residence to comply with the requirements of the bill, we need a legal substitute.

c: County Council
Michael Cogan

BILL 25-03

MC
CC
SBF
LL
MD

MONTGOMERY COUNTY FIRE AND RESCUE SERVICE

Douglas M. Duncan
County Executive

Gordon A. Aoyagi
Fire Administrator

MEMORANDUM

October 1, 2003

005326

TO: Michael Subin, President
Montgomery County Council

FROM: Gordon A. Aoyagi, Fire Administrator
Montgomery County Fire and Rescue Service

SUBJECT: Responses to County Council Questions on Bill 25-03

Please find attached the responses to the questions raised by County Council concerning Bill 25-03.

If you have any questions or concerns regarding this matter, please do not hesitate to contact me.

(43)

Office of the Fire Administrator

101 Monroe Street, 12th Floor • Rockville, Maryland 20850-2589
240/777-2400, TTY 240/777-0725, FAX 240/777-2443

Council Questions – Domestic Sprinkler Legislation

1. How would the County sprinkler requirement apply in the various municipalities in the County? Since Rockville and Gaithersburg already require sprinklers in single-family residences, and inspect sprinklers with their respective Fire Marshals. Does that mean the County building and life safety codes apply county-wide unless a municipality "opts out" of the requirement? Does DFRS have any special authority to enforce this requirement in municipalities because of our County fire marshals' authority and status as Assistant State Fire Marshals?

Rockville City and Gaithersburg City require residential sprinklers and provide inspection services through their Fire Marshal. A survey of the municipalities in Montgomery County found that all have adopted the County's Building and Fire Safety Codes. Maryland Code, Article 38A, Section 7 provides that Assistant State Fire Marshals will carry out the provisions of the Article 38A. Accordingly, MCFRS Assistant State Fire Marshals have concurrent jurisdiction and support the enforcement of the code within these municipalities. All the other municipalities have adopted the County's Codes and are enforced by MCFRS Assistant State Fire Marshals. At a minimum, the State Code is enforced. However, State Code also provides that the most stringent code applies.

2. GCAAR's testimony says that "most insurance companies do not provide a discount for installing a sprinkler system". The Fire Administrator testified that premiums may be lowered by 4 to 40 percent and Rockville Councilmember Hall said the average savings is 15 percent according to the ISO. Who is correct?

The Fire Administrator presented information from the US Fire Administration and the Scottsdale, Arizona study on the impact of sprinklers in single family homes. The range of savings in home owner insurance was on the order of 4 to 20% nationwide. In Scottsdale, the reduction was on the order of up to 40% when sprinkler systems were combined with smoke detectors, carbon monoxide, fire and burglary alarm systems.

MCFRS staff performed a survey on several insurance companies doing business in Montgomery County and found the following information on discount rates:

AllState Insurance	5%-10%	Computer based modeling determines the exact amount.
Atlas Insurance	8%	Fully sprinklered home discount *
Alpha Insurance		Discount is determined by computer modeling.
State Farm Insurance	5%-10%	Depending on partially or fully sprinklered home.
Associated Insurance	13%	Fully sprinklered homes only. *
Nationwide Insurance	15%	Fully sprinklered homes only. *
Becker Bay Insurance	8%-13%	Depending on partially or fully sprinklered home.

* Fully sprinkled homes are defined by insurance companies as sprinklering closets, bathrooms and hallways if these features exceed certain square footage.

3. BIA's testimony said that "sprinkler systems do require twice yearly flushing, and replacement of sprinkler heads every 7-10 years...".Is this correct? Under NFPA standards, what routine maintenance schedule should/must a homeowner follow for a residential sprinkler system?

NFPA 25 contains the standard for Inspection, Testing and Maintenance of water-based fire protection systems. Section 2-3.1 assumes that the sprinkler heads have a 50 year or longer life cycles. For fast acting sprinkler heads, testing of representative samples must begin at 20 years and retesting occur at 10 year intervals thereafter. Most importantly, NFPA 25, Section 1-1 specifically exempts the NFPA 13D systems installed in one and two family residential structures. Available information suggests that the reliability of correctly installed NFPA 13D sprinkler systems is such that they will function for the life of the structure. Flushing and head replacement is not required.

NFPA 13D, Section 1-4 recommends a minimum monthly maintenance program that *should* include a visual inspection of the sprinklers to ensure against obstruction of spray; inspection of system water valves, where provided, to ensure they are in the open position, operation and maintenance of pumps (only in a rural setting and consists of the well pump), checking of the water level in storage tanks (only in rural settings where water supply is provided by wells), and exercising care to ensure that sprinkler heads are not painted during redecoration.

4. BIA testified that homes on a well require a pressure tank that can add to the cost of a sprinkler system about $2,000 to $15,000. Can you respond to that assertion? Provide one or more real-life examples of the ACTUAL cost of any "extra" equipment that a single-family house in the County on well water is required to have a sprinkler system installed. Do well-water systems in new homes WITHOUT sprinklers ever incorporate storage tanks, cisterns, or other reservoirs that could reduce or eliminate the cost of "extras" necessary to incorporate sprinklers?

NFPA 13D, Section 2-1 requires that residential sprinklers provide connection to a reliable water source. In the case of rural homes water storage tanks are acceptable, but must provide supply equal to the demand rate (36 gpm minimum) times ten. This office contacted several sprinkler installation companies (Simplex-Grinnell, Tri-State Fire Protection, and Legion Fire Protection) and determined that the cost for an installed tank system to supply a residential sprinkler system meeting these requirements would cost in the range of $1500 to $3000. Cost of a tank system is dependant on the size of the house, calculated water flow requirements and well flow capacity.

Some homes that rely upon well water may have water storage tanks for emergency or water reliability. NFPA 13D, Section A-2-2 allows the use of a common tank to supply both domestic and fire suppression sprinkler systems. The size of a common tank must be considerably larger and must include a low water alarm that activates when the water level falls below 110% of the required water supply sprinkler equal to demand rate times ten.

5. AOBA provided comments on the changes proposed for the property tax incentive. AOBA asks if the Fire Administrator would consider an "approved equivalent alternative system" to qualify for the County property tax credit for sprinkler retrofitting. Should multifamily property owners be allowed to qualify for the credit by installing sprinklers in only PART of the building?) Does the deletion of the word "complete" (line 77 of the bill) unintentionally change the multifamily/townhouse requirement in current law?

AOBA has been informed that the intent of the bill is to require sprinkler systems in new single family residences. Any changes to provisions in property tax section were intended only as "plain-language" stylistic improvements. The changes are not to be construed as sanctioning partial systems in new single family residences.

The Fire Administrator is currently discussing various proposals with AOBA regarding retrofit of sprinklers for existing high rise residential buildings. AOBA has requested consideration of "approved equivalent alternative systems" as a strategy for implementation. There are no "approved equivalent alternative systems" that provide the same level of occupant protection as a fire sprinkler system.

However, there is opportunity to discuss partial sprinklering as part of an overall plan for sprinklering of existing high rise residential buildings coupled with other life safety features. MCFRS may consider allowing multifamily property owners credit for installation of partial fire sprinkler systems if implementation requires several years. The total credit over several years could not exceed 50% of the property tax. This may require a law change.

Building Code currently does not permit the installation of partial sprinkler systems in residential properties. However, in multi-family occupancies (apartments), partial systems are permitted under the NFPA 101, Life Safety Code. It is anticipated that the Fire Administrator and AOBA will continue discussions to resolve issues in the next building code update to encourage or to phase to be required in sprinkler systems in existing high rise residential properties in a similar manner that existing commercial stovefires were provided phase in time to install sprinklers.

6. What are the fees to be proposed in Executive Regulation for implementation of this law? What percent of the costs are expected to be covered by the proposed feesHow do they compare to other large jurisdictions in the region?

MCFRS has proposed to change its fee structure through revision the Fee schedule Executive Regulation. The proposed changes include a $75 minimum fee and a $.015 per square foot of occupancy charge. These proposed changes to the Executive Regulation will provide 100% recovery of the MCFRS costs of implementing residential sprinkler inspections. The average single family residence will be assessed an estimated $226 charge (including the 10% automation fee)– less than .0005% of the average new house cost in Montgomery County of $400,000. In the event a reinspection is required, the existing fee structure provides a reinspection fee of 50% of the original fee. The estimated average cost for reinspection is $103 for the average new single family residence.

Attached is a draft proposed Executive Regulation, for informational purposes at this time. Upon adoption of Bill 25-03, the County Executive may submit Executive

Regulations implementing the Bill. The proposed changes are noted in Sec.4 Fire Protection Systems (Code Required) Inspection Fees for the $75 base fee (new). A $2 per sprinkler head (existing) and a $.015 per square foot fee (new) is noted in Sec.4.d. The reinspection fee provision (existing) is found in Sec.2.f. The automation fee (existing) is Sec.10.

Staff surveyed other jurisdictions and found the following:

Prince Georges' County	Is in the process of implementing a fee schedule at this time to recover the costs of the residential sprinkler inspection program.
Frederick County	$75.00 Inspection fee $75.00 Plan review per model per development.

7. Please compare the costs for implementation of the school inspectors with the projected costs for implementation of single family sprinkler inspections? If additional office space is required, please provide justification for the projected costs.

Implementation costs for the residential sprinkler system inspections are consistent with the costs associated with implementation of the school inspections. MCFRS estimated that inspections of the 440 schools in the County would required 5136.5 hours, with individual schools taking between 3 and 22.5 hours depending on size and complexity. MCFRS budgeted for 4 Master Firefighter/Inspectors, with vehicles, radios, gear and other items to implement the school inspections. First year costs increased from $148,500 per person to $162,200 per person in the year and a half since passage of Bill 8-02. The cost estimate for the school inspection program did not include lease space for offices.

Implementing the residential sprinkler system inspection program is estimated to require 11,000 hours for 2,000 homes. Each home must be visited twice and is expected to take an average of 5 hours total time including travel, administrative and on-site work, not including reinspections for system corrections. MCFRS is proposing 4 Master Firefighter/Inspectors, with associated vehicle and equipment needs, to implement the residential sprinkler inspection requirement. This is short the actual required staffing projection by two work years. However, MCFRS anticipates that approximately one-third of the work load will consist of requests for expedited inspections. The expedited inspection incurs overtime which are recoverable through the existing fee regulation.

The cost estimates for residential sprinkler inspections also includes 480 square feet of lease space for the 4 inspectors. Staff contacted DPWT, Facilities Management and found that leased space averages $24 - $26 per square foot in the Rockville area. Space in the Gaithersburg and Germantown areas runs approximately $23 per square foot. DPWT staff advised that this information was found on CoStar Real Estate Leasing. The Rockville space is located at 51 Monroe Street and is currently occupied by DTS. It offers the advantages of immediate move in upon implementation of the legislation, already has the County Government's infrastructure installed and is proximate to the main Fire Code Enforcement office. Facilities recommended that the lease of space of 51 Monroe would be cost effective and avoids the costs of wiring and other connectivity in other locations.

8. Since the design and installation of a residential sprinkler system require a qualified professional licensed by the State, would a permit requirement for certification by the licensed professional be sufficient to eliminate the need for County inspections?

A permit requirement for certification by a qualified professional would not eliminate the need for an inspection by the County. Maryland State law, Article 38A, Section 7(b), specifically states that,

> "The State Fire Marshal... has all responsibility for the implementation of fire safety programs in the State designated to minimize fire hazards and disasters and loss of life and property from these causes. These responsibilities include, but are not limited to the establishment and enforcement of fire safety practices throughout the State, preventative inspection and correction activities..."

Section 7(c) (1) delegates this authority to the political subdivisions of the State and specifies that,

> "A fire marshal or appropriate fire official legally designated by a county or municipal corporation of the State shall serve as assistant State fire marshal, without compensation, for the purpose of carrying out the provisions of this article, including the issuance of orders in that county or municipal corporation."

Finally, Section 7(c)(1)(i) establishes minimum qualifications and states that,

> "The minimum qualifications for an assistant State fire marshal shall be completion of National Fire Protection Association (NFPA) Standard 1031 – Fire Inspector I or the equivalent, as determined by the State Fire Marshal."

MCFRS believes that these State law provisions prohibit third party certification in lieu of Fire Marshal inspections and place the responsibility for fire code enforcement with MCFRS.

However, Montgomery County Code, Chapter 22, Section 22-4 does allow the Director of Fire and Rescue Services to waive inspections on a case by case basis. County Code States that,

> "The Director of Fire and Rescue Services may grant a waiver related to construction inspection, and use and occupancy inspection under subsections (b) and (c) if the waiver is warranted in light of subsections (b) and (c) and:
>
> (1) the experience of the architect or engineer in dealing with fire safety features of the building construction, reconstruction or rehabilitation;
>
> (2) the availability and deployment of inspection personnel; and

(3) other factors of health and safety deemed relevant under the circumstances."

Sections (b) and (c) noted above require that the system is built under the direct supervision of the architect or engineer and that the architect or engineer certify under oath that the system complies with all codes.

These provisions have never been invoked for systems in commercial and multifamily structures wherein the involvement of the architect and/or fire protection engineer is required for the design of the system. The installation of the sprinkler system is generally accomplished under the license of the Fire Protection or NICET engineer; however, the installation is rarely done under the direct supervision of the engineer.

Our experience with Fire Code Enforcement within Montgomery County demonstrates that Fire Marshal inspections of Life Safety Systems are a critical component of ensuring community fire safety. Problems discovered during the Fire Marshal inspection process of commercial and multi-family occupancies often dictate reinspection. The reinspection rate averages about 20% of all inspections depending on system type. Problems frequently found include heat treated pipes (causes potential leaks), leaks in system under pressurized test, unconnected water inlet valves, fake sprinkler heads, and painted over sprinkler heads. Any of these problems would have rendered the fire sprinkler systems useless.

Rockville City and Gaithersburg City both require residential sprinklers and provide inspection services through their Fire Marshal. Gaithersburg City requires plan review, hydrostatic testing of the fire sprinkler system and sprinkler final inspections for NFPA 13D systems by their fire marshal. Rockville City requires permits and inspections for NFPA 13D systems through their Fire Marshal's office.

DRAFT

Montgomery County Regulations on:

FIRE SAFETY CODE - FEE SCHEDULE FOR PERMITS, LICENSES & EXCEPTIONS
MONTGOMERY COUNTY FIRE AND RESCUE SERVICE

Issued by: County Executive
Regulation No:
COMCOR: Division 06
Authority: Code Section 22-13
Supersedes: Executive regulation 10-98
Council Review: Method (2) under Code Section 2A-15
Register:
Effective date:
Sunset date: None
Comment Deadline:

SUMMARY: The proposed regulation updates Fire Safety Code Fees for permits, certificates, licenses and exceptions for those activities under the administration of the Montgomery County Fire and Rescue Service.

ADDRESSES: Montgomery County Fire and Rescue Service
255 Rockville Pike, Second Floor
Rockville, Maryland 20850

STAFF
CONTACT: District Chief Michael A. Donahue
240-777-2457

DRAFT

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Sec. 1. Statement of Purpose.

The following schedule of fees is adopted pursuant to the authority contained in Chapter 22, "Fire Safety Code", of the Montgomery County Code, 1994, as amended. Fees included in the schedule are for permits, certificates, licenses, exceptions, examinations, plans review, inspections and testing which pertain to the regulations of the Fire Safety Code as enforced by the Montgomery County Fire and Rescue Service. This schedule supersedes the schedule of fees contained in Executive Regulation 10-98.

Sec. 2. General Provisions.

The following pertain to all types of fees:

a. Minimum Fee. All fees required by the provisions of Chapter 22, "Fire Safety Code", of the Montgomery County Code, 1994, as amended must be paid before any construction, installation or work is started, and before a permit, certificate, license, examination, plans review, inspection, test or other service, is provided. Fees must be paid at time of permit, certificate or license issuance. Additional fees due as a result of additional devices not identified at time of application must be paid prior to approval/acceptance of permitted activity. Fire Safety Code Exception request fees must be paid in full at time of application.

b. Refund. If a building project has been abandoned or discontinued, the person who has paid the total fee for a permit may return the permit for cancellation. When it has been cancelled, 50 percent of the fee must be refunded, if:

   1. no work has been done under the permit; and

   2. the written request is made within six months of the issuance of the permit or during the term of the permit (whichever is less).

   3. Revoked, suspended or invalid permits are not eligible for refunds.

c. Reissuance. If a permit expires or becomes void, the permit may be reissued at a flat charge of $50, provided all conditions of issuance can still be met and no code changes have occurred. Otherwise, the charge for reissuance is the original permit fee.

d. Extensions. The fee to extend the term of plan review, testing/inspection, tank, and special permits (after written application and before the expiration of the original permit) is $50.

e. Transfer. Permits and Permit fees are not transferable.

f. Reinspection.

(1)	First reinspection	50% of original fee
(2)	Second reinspection	75% of original fee

(3)	Each subsequent reinspection	100% of original fee
(4)	Overtime inspection (When available)	$75.00 per 1/4 hour, including travel time

NOTE: A cancellation within 48 hours before an inspection will be counted as an inspection.

NOTE: All these fees are per unit or portion of system involved, minimum $25. It is the responsibility of the person requesting the reinspection/retest to provide the inspector with a fee paid receipt from this office, when a reinspection/retest fee is required.

g. Permit Application Revisions: Revision for change of legal description and/or ownership must pay the minimum permit fee.

h. Exemptions: There is no fee for any plan review or test/inspection for any fire protection system that is not required by Montgomery County Code/Regulations or Maryland State Code/Regulations. This exemption does not apply to any system which is installed for reasons of a Code alternative/exception, or equivalency. There is no fee for systems installed in compliance with Section 27-4 of NFPA 101.

i. Duplicate Plans: Processing of duplicate plans, after the original review, must pay 25% of the original fee, minimum $25, subject to availability of original reviewed plans.

Sec. 3. Exception Requests.

All requests for code exceptions must include a non-refundable processing fee of $300 per Code section, or subsection involved.

Sec. 4. Fire Protection Systems (Code Required) Inspection Fees.

Term - Field installation must be started within 1 year or permit becomes void. The minimum fee for a code required fire protection system inspection is $50.00. The minimum fee for townhomes and single family detached dwelling is $75.00. The fees below apply to the inspection of fire protection systems that are required by law:

a. Fire Alarm and Detection Systems (including main control panel). $100.00 per story to be controlled, plus $5.00 per device (maximum $200.00 per story).

b. Fire Alarm and Detection Systems (devices or household control panel). $10.00 per device, minimum $100.00 (maximum $200.00 per story).

c. Halon, CO2, or Clean Agent Systems (including controls, alarms, detection). $0.50 per pound of agent.

d. Fire Sprinkler and Combined Sprinkler/Standpipe Systems. $2.00 per head. For

single family detached homes and townhouses, where a use and occupancy fee is not assessed, a fee of $.015 per foot of occupancy space will also be collected.

e. Standpipe Systems.

(1) $100.00 per standpipe riser.

(2) $25.00 per each addition of a hose valve to an existing system

f. Fire Pump. $200.00

g. Dry or Wet Chemical Extinguishing Systems (including hood & duct). $200.00 per system.

h. Fire Main Flush Test. $50.00 per test witnessed.

i. Underground Fire Main Hydrotest. $50.00 per test witnessed.

j. Smoke Control System. $300.00 per individual system.

k. Emergency Generator Test. $100.00 per generator

Sec. 5. General Permit Fees.

Fees for the following items are $50 except as noted:

a. To install, remove, repair or alter a stationary tank for the storage of flammable or combustible liquids, dispensing devices, or associated piping. Permit Term - 6 months.

b. For placing any flammable or combustible liquid stationary tank temporarily or permanently out of service. Permit Term - 3 months.

c. To remove, abandon, place temporarily out of service or otherwise dispose of any flammable or combustible liquid tank. Permit Term - 3 months.

d. To use any building, shed, or enclosure as a place of business for the purpose of repairing any motor vehicle. Permit Term - Indefinite.

e. To conduct floor resurfacing and refinishing operations involving the use and application of flammable liquids or materials. Permit Term - 30 days.

f. For spraying or dipping operations utilizing more than one gallon of flammable or combustible liquids on any working day. Permit Term - Indefinite.

g. For the operation of a bulk storage plant and for storage & dispensing liquefied petroleum gases. Permit Term - Indefinite.

h. To store or handle combustible fibers in excess of 100 cubic feet. Permit Term - Indefinite.

i. To conduct or maintain any tire recapping or rebuilding plant. Permit Term - Indefinite.

j. To store in excess of 100,000 board feet of lumber. Permit Term - Indefinite.

k. To use explosives for up to one month, $100.00; $5 for each additional month. Permit Term - not to exceed 12 months.

Sec. 6. License Fees.

a. To service portable fire extinguishers. $50.00/yr. Permit Term – 12 months.

b. Installation or modification of a sprinkler system, license or annual renewal. $150.00/yr. Permit Term - 12 months.

Sec. 7. Certificate Fees.

a. For a firm to engage in the business of servicing portable fire extinguishers. $50.00/yr. Permit Term - 12 months.

b. To obtain a capacity certificate. $100.00; $5.00 for each duplicate certificate. Permit Term - Indefinite.

Sec. 8. Use and Occupancy Fees, Other Inspection Fees.

Fees for Use and Occupancy or other inspections not covered by other sections of this regulation, except enforcement generated inspections:

a.	0 - 5,000 sq. ft.	$180.00
b.	5,001 - 10,000 sq. ft.	$300.00
c.	10,001 - 20,000 sq. ft.	$360.00
d.	20,000 sq. ft. or larger	$360.00, plus $0.01 per sq. ft.

e. The fee for a use and occupancy fire code inspection must be paid at the time of application. The maximum fee is $5,000.00.

Sec. 9. Miscellaneous Fees.

a. Photocopies (of plan review comments, correspondence, etc.) $1.00/ page.

b. License Inspections:

(1) Family or Group Day Care. $50.00

(2)	Nursery or Day Care Centers.		$100.00
(3)	Board & Care, 6-16 residents.		$100.00
(4)	Board & Care, over 16 residents.		$200.00
(5)	Health Care, Detentional.		$300.00
(6)	Other licensed facility.		$50.00
(7)	Private Educational Institutions.		
	A.	Preschool.	$100.00
	B.	Elementary School.	$200.00
	C.	Middle School.	$300.00
	D.	High School.	$400.00

Sec.10. Automation Fee.

An automation enhancement fee is 10% of the regular fee, which is set by this Executive Regulation, for any permit, license, or activity for which the Fire Safety Code requires a fee. The automation enhancement fee is in addition to the regular fee and must be paid at the same time that the regular fee is due.

Sec.11. Severability.

If a court of final appeal holds that any part of this regulation is invalid, that ruling does not affect the validity of other parts of the regulation.

Sec. 12. Effective Date.

A regulation adopted under Method 2 becomes effective when the Council adopts a resolution approving it, or on a later date specified in the regulation. If the Council takes no action within sixty calendar days after receipt, or by any later deadline set by resolution, the regulation is effective the day after the deadline for approval, or on a later date specified in the regulation.

Approved:

_____

Douglas M. Duncan, County Executive

OFFICE OF MANAGEMENT AND BUDGET

Douglas M. Duncan
County Executive

MEMORANDUM

Beverley K. Swaim-Staley
Director

TO: Michael L. Subin, Council President
Montgomery County Council

VIA: Bruce Romer
Chief Administrative Officer

FROM: Beverley K. Swaim-Staley, Director
Office of Management and Budget

SUBJECT: Bill 25-03, Buildings – Residential Fire Sprinkler Systems

The purpose of this memorandum is to transmit a fiscal impact statement to the Council on the subject legislation.

LEGISLATION SUMMARY

The legislation would require that developers install fire sprinkler systems in new single-family detached houses on any building permit submitted after December 31, 2003. The legislation would also provide a taxpayer with a one-time property tax credit for installing a fire sprinkler system in a residential building. The Department of Finance would have to include a notice of the availability of the credit and where to obtain more information with each residential property tax bill.

FISCAL SUMMARY

To comply with the law, the Department of Permitting Services (DPS) would require two positions (Senior Permitting Specialist and a Permitting Technician III) to review fire sprinkler systems' plans and process permit applications for fire sprinkler systems in single-family detached homes. More specifically, the Senior Permitting Specialist would be responsible for reviewing engineering plans for fire sprinkler systems in an estimated 2,000 single-family detached homes. The Permitting Technician III would be responsible for processing the estimated 2,000 permit applications and collecting the appropriate fees.

Presuming the legislation is adopted October 8, 2003, and DPS implements the review and processing of fire sprinkler systems in the single-family detached homes by January 1, 2004, the increased cost to DPS' operations is estimated at $108,860 in FY04 and $153,960 in FY05 as shown on the chart on the following page.

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Department of Permitting Services	FY04	FY05
Salaries & Wages[1]	$65,700	$110,490
Fringe Benefits[2]	$14,450	$24,310
Total Personnel Costs	$80,150	$134,800
Operating Costs[3]	$8,710	$19,160
Capital Outlay[4]	$20,000	0
Total Operating Costs	$28,710	$19,160
Total DPS' Costs	$108,860	$153,960
Revenues	$148,000	$263,000

DPS would generate permitting fee revenue that would offset the cost of reviewing the fire sprinkler systems' engineering plans. The cost of a permit application for a sprinkler system is two dollars per sprinkler head and not less than $115 per permit (as stated under Executive Regulation 15-03 AM). The FY04 revenue estimate is based on the review of 1,000 single-family detached homes that have a fire sprinkler system with 30 sprinkler heads. The FY05 revenue estimate is based on the review of 2,000 single-family detached homes that have a fire sprinkler system with 30 sprinkler heads. The cost of a permit is increased by a ten-percent automation fee as required by Executive Regulation 5-98.

To comply with the law, the Department of Fire and Rescue Services would require four Master Firefighter Inspector positions who would be responsible for the hydrostatic testing, the fire inspections, and the smoke removal systems inspection of the fire sprinkler systems. The inspectors would also develop inspection reports that would accurately reflect the findings of the inspection in accordance with codes and standards, prepare written correspondence to communicate fire protection and prevention practices, and given a common fire safety issue, investigate and resolve complaints regarding the fire sprinkler systems, and testify at legal proceedings.

Presuming the legislation is adopted October 8, 2003, and FRS begins inspecting the fire sprinkler systems in the single-family detached homes by January 1, 2004, the increased cost to FRS' operations is estimated at $635,460 in FY04 and $758,410 in FY05 as shown on the chart on the following page.

[1] The Senior Permitting Specialist was budgeted at the mid-point of a Grade 26 of the 2004 General Salary Schedule. The Permit Specialist III was budgeted at the midpoint of a Grade 19 of the 2004 General Salary Schedule. The FY04 amount reflects seven months of salaries earned by the two specialist positions.

[2] Fringe benefits are calculated at 22 percent of the positions' salaries and wages.

[3] Operating costs consists of books, vehicle maintenance, employee training, telephone service, and computer supplies.

[4] Capital Outlay consists of one computer ($2,000) for each employee, two modular furniture units, and the renovation of office space.

Fire and Rescue Services	FY04	FY05
Salaries & Wages[1]	$131,380	$262,760
Fringe Benefits[2]	$58,520	$117,040
Overtime to provide Next Day Service	$70,110	$141,420
Total Personnel Costs	$260,010	$521,220
Operating Costs[3]	$119,450	$237,190
Capital Outlay[4]	$256,000	0
Total Operating Costs	$375,450	$237,190
Total FRS' Costs	$635,460	$758,410
Revenues	$409,810	$819,630

FRS would require two workyears of overtime pay for the Master Firefighter Inspectors to inspect fire sprinkler systems within 24 hours of the request by developers/homeowners. The department estimates that $141,420 would be needed to pay the firefighter inspectors for overtime pay annually.

The current inspection fee for a sprinkler system is two dollars per sprinkler head. This fee will remain in place. FRS would generate additional inspection fee revenues that would offset the cost of the added inspections. In order to do this, the FRS will implement a new basic fee of $75 and a square footage charge ($.015) per house for the inspection of a fire sprinkler system. The FY04 revenue estimate is based on the inspection of 1,000 single-family detached homes and 550 single-family attached homes that have a fire sprinkler system with 30 sprinkler heads. The FY05 revenue estimate is based on the inspection of 2,000 single-family detached homes and 1,000 single-family attached homes that have a fire sprinkler system with 30 sprinkler heads.

The legislation modifies the one-time property tax credit for installing a fire sprinkler system in a residential building (Bill 3-00, Property Tax – Credit – Fire Sprinkler Systems). Under current law, all detached single-family dwellings are eligible for the tax credit. Under current law only *attached* residential dwellings are required to have fire sprinkler systems; Bill 25-03 extends that requirement to include all new residential buildings in Montgomery County when it becomes effective January 1, 2004. Upon enactment of Bill 25-03 only those detached single-family dwellings that were built prior to the date that the bill becomes law will be eligible for the tax credit.

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[1] The Master Firefighter is budgeted at a salary of $65,690. The FY04 amount reflects six months of salaries earned by the firefighters.

[2] Fringe benefits are estimated at $29,260 per firefighter.

[3] Operating costs consists of training, utility expenses (assumes $700 mo. per firefighter), lease payments for space ($2,880/mo. per firefighter), vehicle fuel and maintenance, Home Owner's Guides, and database support and computer supplies.

[4] Capital Outlay consists of vehicles and radios ($55,000 per vehicle), gear and uniforms ($3,000 per firefighter), and furniture and computers ($6,000 per firefighter).

The legislation requires the Department of Finance to include a notice of the availability of the credit and where to obtain more information with each residential property tax bill. The Department of Finance reported that it could include the notice about the tax credit in its annual tax brochure without any additional cost.

The total cost for DPS and FRS to comply with the legislation is $744,320 in FY04 and $912,370 in FY05 as shown on the chart below:

	FY04	FY05
Department of Permitting Services	$108,860	$153,960
Department of Fire and Rescue Services	$635,460	$758,410
Total Cost	$744,320	$912,370
Revenues	$557,810	$1,082,630

The following contributed to and concurred with this analysis: Shahriar Amiri, Department of Permitting Services; Darlene Flynn, and District Chief Michael Donahue, Department of Fire and Rescue Services; and Robert Hagedoorn, Department of Finance.

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