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The following issue of TechNotes has been written by Roland Asp, C.E.T., Manager of Installation Standards for the NFSA. Roland serves on the Technical Committee on Residential Sprinkler Systems and was a member of the Project Technical Panel for the research project discussed in this issue of TechNotes.

Research Project: Stakeholder Perceptions of Home Fire Sprinklers

America's fire problem is a residential problem. Most deadly fires in this country are occurring in the places where we feel the safest - our homes. NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two- Family Dwellings and Manufactured Homes is the solution. Residential fire sprinkler systems provide unparalleled life safety against fires in our homes. Why then, aren't these systems being installed throughout the country?

In the end the answer is: Because the American people are not demanding that these systems be installed. Without going into the various arguments by the different lobbies for and against residential sprinkler systems, it is important to know what the various stakeholders think about fire sprinkler systems and who better to ask than those who have these systems installed in their homes and their communities.

To find out what the people living with residential sprinkler systems think about these systems, the Fire Protection Research Foundation sponsored a project called: Stakeholder Perceptions of Home Fire Sprinklers. The final report was issued on September 2016 and it provides some surprising results.

What is this Project?

While the opinions on the fire protection and home building industries are well known on these systems, this project was intended to understand the perceptions of those who have firsthand experience with these systems. These



stakeholders are: Homeowners, Local Governmental Officials and Water Purveyors. Stakeholders in Maryland and California; the two states that have mandatory sprinkler requirements, were targeted.

To develop an understanding on what these stakeholders think about the fire sprinklers systems installed in their homes and communities, a series of surveys and interviews were conducted with these stakeholders. The goal of the study was to gain an understanding of the overall experience of the stakeholders and the perceived value of these life safety systems.

Findings

This project found that overall all involved stakeholders indicated that they have a generally positive view of residential fire sprinkler systems installed in their homes and their jurisdictions. Additionally, the survey results indicated that more education is needed as specific information on these systems was not known by a large percentage of the respondents.

Homeowners:

50 homeowners were surveyed with 25 from each of the two states (Maryland and California). A mix of home types were included, both single-family homes and townhouses. Gratifying for those of us in the fire sprinkler industry, is the fact that most homeowners indicated that they have a positive view of sprinklers and most would seek to have sprinklers installed in their next home purchase.

When asked: How important was the home fire sprinkler system to their purchasing decision, the majority of respondents (54%) indicated that sprinklers were either extremely important (15 responses) or somewhat important (12 responses) to their decision to purchase a particular home. 34% (17 responses) indicated that they did not think much about sprinklers and 10% (5 responses) stated that the presence of home sprinkler was not very important and finally 2% (1 response) indicated that sprinklers were not important at all.

The survey clearly indicates that most of the homeowners feel that their sprinkler system provides them with real benefits; 94% stated that home fire sprinklers provided them with a sense of safety, 68% felt the sprinklers increased the value of their homes and 68% stated the home sprinkler system lowers their cost of homeowners' insurance.

The survey did show that the homeowners did not have much information on or know about specific details regarding residential fire sprinkler systems. When asked



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about features of their system such as backflow preventers, water supply type and water flow alarms; most respondents stated "I don't know".

An issue that is often cited as a negative view on residential sprinkler systems is the fear of water damage to the home. This study indicates that this is not the overall view of the homeowners surveyed. 68% stated that they were not afraid of water damage, while 32% indicated that this is a concern.

The number one argument against residential fire sprinkler systems is probably the cost to the homeowner. However, the results of this study do not seem to indicate that the cost was a stumbling block to the homeowners surveyed. The survey indicates that the majority of homeowners do not believe that they paid additional costs to have a residential fire system in their homes. When asked if the cost of the sprinkler system was included in the cost of their homes, 48% stated yes and 38% indicated that they did not know. A related question was asked. When asked if they incurred additional costs for their residential sprinkler systems; 18 % of the homeowners said yes, 40% said no and 42% said that they did not know.

Local Government Officials:

A total of 69 government officials were surveyed. These officials consisted of elected officials such as mayors and city managers and did not include code enforcement officials. 100% of these officials did indicate that their jurisdiction has experienced home fires and 46% stated that residents have been killed or injured in these fires. 31% stated that firefighters have been killed or injured.

1. Like the homeowners surveyed, most local governmental officials viewed residential fire sprinklers in a positive light. Most indicated that they believe the home fire sprinklers reduce death and injury to both residents and fire fighters, reduced fire damage costs and have increased the value of homes in their jurisdictions.

2. As with the homeowners, the government officials surveyed indicated that there were a lot of unknowns when it came to residential fire sprinkler systems. "I don't know" or "not applicable" was the most common response to the following questions. Do residential sprinklers: reduce cost due to water damage? create more false alarms? result in reduced insurance costs? and has the requirement for sprinklers increased or decreased the demand for new housing?

3. Lastly, most officials surveyed did not regard home fire sprinklers as a hot topic in their community, only 18

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(28%) respondents indicated that it was a hot topic in their community and of those 18, 10 of the respondents indicated that the conversation regarding sprinklers was or is mostly positive. Only 3 respondents indicated that the conversation was mostly negative.

Water Purveyors:

A total of 20 water purveyors were interviewed. 15 were in California and 5 were in Maryland. Most water purveyors indicated that there were no large problems effecting their distribution system due to the mandatory residential fire sprinkler requirements.

The water purveyors indicate that there has not been a noticeable impact on the water supply and water quality has not been an issue. Most of the water districts do not require a separate service line or separate water meter and most jurisdictions have increased their water service line to 1 inch and the meter size to $\frac{3}{4}$ or 1 inch to prepare for the implementation of home fire sprinkler systems.

When asked about additional requirements being imposed above what is minimally required by NFPA 13D, most of the water purveyors have indicated that backflow prevention devices (double check valves) are being required.

The water purveyors did state that once the service line and upgraded meter are installed, they have little concern with residential fire sprinkler system.

Conclusion:

Based upon the findings of this project, it is clear that most homeowners and local government officials, that do have residential sprinklers installed in their homes and their jurisdictions, look at these systems in a positive light. The life safety benefits of residential sprinkler systems seem to be appreciated and understood. The study also makes clear, at least with the homeowners, that these systems seem to be thought of as just another system, such as a plumbing system, electrical system or HVAC system. As such, most homeowners do not know specific details about these systems. This is perhaps an educational opportunity for us as an industry. The water purveyors also seem to be comfortable with these systems and when they have had a chance to prepare, the implementation of a residential sprinkler ordinance has not caused a problem to the water supplies.

A full copy of this report can be obtained from NFPA.

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