SPRINKLER WORKS

Holiday Season Safety in Fraternity/Sorority and University Housing

Fraternity houses, sorority houses, and university housing in converted dwellings are found on and around university campuses. These properties pose many of the same life safety hazards posed by rooming houses. In most cases, these properties are occupied by young adults who might be prone to risky behavior—for example, smoking, consuming alcohol, and using controlled substances—which can serve to increase the life safety hazard.

Each year, nearly 156,000 fires in the United States occur during the winter holiday season claiming nearly 630 lives, 2,600 injuries, and $936 million in property damage. Of these, 47,000 residential structure fires kill 530, injure 2,200, and cause an estimated $554 million in property damage.

Fire loads increase during the holiday season. Many homes are decorated with seasonal garlands, electric lights, candles, banners, or displays. Probably the most popular addition to the home during the holiday season, and a significant fire hazard, is the Christmas tree. Dried - out fir and pine Christmas trees ignite easily and can accelerate fire growth by spreading rapidly to nearby combustible materials in the home.

Loss Measures

Winter holiday fires, like winter fires in general, are more severe than fires on the average day. In addition, winter fires that occur during the winter holidays have slightly higher losses (1 to 2 percent) than fires that occur in the remaining winter season.

The losses are highest for those holiday fires that occur in residential structures. Some of these of these holiday residential structure fires are particularly of concern. Such is the case where decorations, candles, and Christmas trees are involved in the ignition. The injury rates are higher and, in the case of Christmas tree fires, the dollar loss per fire is significantly higher. Winter holiday residential structure fires have three times the dollar loss per fire when Christmas trees are the first material ignited than those fires that are ignited by other materials. Fatalities per fire when a Christmas tree is the first material ignited is nearly eight times that of other winter holiday fires.

Causes

Cooking is the leading cause of residential structure fires year round, followed by heating and incendiary/ suspicious. During the winter and winter holiday season, however, heating supplants cooking as the leading cause of residential structure fires. Winter holiday fires show a slight increase in electrical distribution and open flame fires over winter residential fires, in large part as a result of the increase in candle, Christmas tree, and decoration fires.

Decorations

Residential structure fires where the form of material ignited is a decoration tend to injure many people, although not to the degree of fires started by candles or Christmas trees. Although deaths in these fires are extremely rare, injuries soar with as many as 60 injuries per 1,000 fires. Approximately 330 residential structure fires occur each winter holiday where decorations are involved in the ignition.

Residential structure fires where decorations are involved occur more frequently during the winter holiday season. Approximately nine residential structure fires occur per day during the winter holiday season compared two per day during the rest of the year. Homeowners should be cautious in the placement of decora-

tions too close to a heat source could be a recipe for fire.

Candle Fires

Many people decorate their homes with candles during the winter holiday season. Consequently, candle fires increase fourfold during this period. More than 1,600 residential structure fires occur each winter holiday season where candles are the form of heat of ignition. Candle fires kill more than 10 people, injure another 175, and cause more than $20 million in property damage each holiday season. For every 1,000 residential structure fires where candles are the form of heat of ignition, 7 people die and 115 people are injured. Candle fires cause an estimated $12,200 in property damage per fire.

Christmas Trees

Many homes have Christmas trees during the winter holiday season. While few in number, Christmas tree fires lead to significant losses in residential structure fires. There are about five residential structure fires per day during the winter holiday season. The number of residential structure fires where Christmas trees are the form of material first ignited are relatively low in the beginning of the winter holiday season and increase significantly through the holiday season. Each year more than 200 residential structure fires occur where Christmas trees are the form of material first ignited.

As the winter holiday season progresses, live or cut Christmas trees and greens dry out. Living plants (including trees) do not burn as easily as dead ones. As plants die, they dry out and become more combustible. Some of these fires can be prevented by shortening the time the tree is in the home and by keeping the tree watered. The use of artificial Christmas trees will also lower the incidence of tree fires in residences.

Conclusion

During the winter Holiday season, the fireload inside a home increases. As a result of this increased fuel, losses from residential structure fires increase. Especially tragic are those fires caused by decorations, candles, and Christmas trees. Efforts must be made to make a fire-safe home, especially during the winter holiday season. Homeowners must be aware of the increased fire hazards present in their homes during this festive time of year.

Fire and life safety protection involves providing adequate means of escape, detection and alarm systems, bedrooms that are separated from corridors by smoke-resistant walls and self-closing doors, and automatic sprinkler systems.

Serious fires in student housing wreak almost unimaginable devastation and disruption; this potential warrants careful consideration of fire safety options. In particular, automatic sprinkler systems should be considered as a viable option; they have established an impressive record of preventing residential fire catastrophes, particularly in the hospitality industry. With technologies developed specifically for residential applications, automatic sprinkler systems are now commonplace in hotels and motels, where they afford the traveling public with a high level of fire safety. College students deserve this same high level of protection … and their parents expect it.

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Tim has an extensive background in fire protection including over 35 years of service with the Whitman, Massachusetts Fire Department, a suburb of Boston.

With over twenty years as Chief of Department, he has many appointments to his credit, including the Massachusetts Department of Fire Services, Special Operations Team where he served as an Operations Chief; the Massachusetts Fire Service Commission where he was elected as Chairman; the Task Force on Fire & Building Safety, a committee charged with making a comprehensive review of the Commonwealth's building and fire codes; and the Fire Science Technology Program Advisory Board at Massasoit Community College.

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The Voice of the Fire Sprinkler Industry