New research prompts radical changes in firefighting techniques

THE COLONY, Texas — Because building construction and contents have changed significantly over the past 50 years, it has become essential that firefighting tactics change as well to address the modern fire environment. Over the past six months, The Colony Fire Department has been actively rewriting its fire operations guidelines and training techniques with an eye toward fighting fires the smartest way possible.

These changes are based on fire research conducted by Underwriters Laborites (UL) as well as a two-year assessment period within the department during which the methods of how best to fight structure fires was evaluated and each aspect of fire operations was reviewed to see how it could be modified to meet the current and future demands of our growing city. It was during this review period that UL published its information obtained from the fire research project, conducted in a partnership with the National Institute of Standards and Technology (NIST) and the Fire Department of New York (FDNY), relating to modern fire behavior and firefighting tactics.

“This information was exactly what we were looking for, and it was perfect timing for inclusion in our revised fire operations guidelines,” Fire Chief Scott Thompson said.

Many of the strategies and tactics used by firefighters today are based on best practices that have been passed down from generation to generation. While these practices have proven to be successful in the past, many have been based on observation and experience, and not science. These practices have failed to compensate for the lightweight materials being used in modern construction, and the modern plastics and synthetic materials found inside these modern buildings.

“Individually or together, modern materials and construction change the fire environment significantly, impacting heat release, overall temperatures, and fire gases produced, as well as increasing the possibility of flashover up to eight times faster than in older buildings,” Thompson said.

For the past six months, firefighters in The Colony have been training and working with revised strategies and tactics on actual fire events. On Jan. 1, the new and revised fire operations guidelines were officially adopted and put into place department wide. The acronym S.M.A.R.T (Strategic, Managed, Aggressive, Risk Regulated, Tactics) was developed to market the changes internally, place the focus on
smart firefighting versus merely safe firefighting, and emphasize the importance of a very coordinated firefighting effort, which is one of the main recommendations of the research.

“This impacts every aspect of what we routinely do on fire events,” Thompson said. “We have made modifications to how we fight fire, ventilate, search, and our overall priorities on the fire ground. This is without a doubt the future of firefighting.”

These changes also provide a valuable public education opportunity as well, Thompson said. For example, neighbors, Good Samaritans, police officers, and even firefighters often race to break out windows in the early stages of a house fire. But research now shows that if the fire is ventilation-limited, breaking out windows is the worst action to take. Opening the building in any way before fire attack methods are in place and ready could cause conditions to rapidly deteriorate.

For additional information about S.M.A.R.T. or The Colony Fire Department in general, contact Chief Thompson by email at sthompson@thecolonytx.gov or call 972-571-0732.

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