



IFSA
International Fire Suppression Alliance

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INTERNATIONAL CONFERENCE
OF
PROTECTION AGAINST FIRE

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Preventing Tragedies with Fire Sprinkler Systems

We have the means to prevent large losses to fire – automatic fire sprinkler systems make up for a wide range of other fire protection deficiencies



The “Fire Sprinkler Americas” February 2016 Conference in Medellín



The Americas – A Single Ring

20 Years of Nightclub Fire Tragedies

- October 2015 – Bucharest, Romania – 45 dead
- January 2013 – Santa Maria, Brazil – 242 dead
- January 2009 – Bangkok, Thailand – 66 dead
- September 2008 – Shenzhen, China – 43 dead
- April 2008 – Quito, Ecuador – 14 dead
- December 2004 – Buenos Aires, Argentina – 194 dead
- December 2003 – Perm, Russia – 153 dead
- February 2003 – Rhode Island, USA – 100 dead
- March 1996 – Quezon City, Philippines – 162 dead

Typical Nightclub Tragedy Fire Scenario

- Crowded
- Security concerns limit exits
- Use of alcohol affecting judgment
- Rock band using pyrotechnics
- Ignition of foam soundproofing or combustible decorations
- No fire sprinkler system



Earlier that month – the 4th “Public Health Emergency of International Concern” in history

April 2009 – H1N1 Swine Flu Pandemic

May 2014 – Resurgence of Polio

August 2014 – Ebola Outbreak in West Africa

February 2016 – Mosquito-borne Zika Virus

Public Safety vs. Public Health

Public safety problems are not considered contagious and are therefore not considered to have the same urgency as public health problems, but they can be just as harmful, and with political consequences for governments that fail to take these problems seriously.

The common use of indoor pyrotechnics by bands has essentially created an emergency for these nightclub occupancies...but there is already a known cure: automatic fire sprinklers.

The Cure: Automatic Fire Sprinklers

Automatic sprinkler systems are known to be the best single feature of fire protection available, and are able to make up for a wide range of other fire protection deficiencies.

Unlike smoke detection systems, smoke control systems or other systems that simply react to a fire, automatic sprinkler systems act to extinguish or control the fire, preventing it from becoming dangerous.



Have additional lessons been learned in the past 30 months?



Significant Fires Since FSA in Medellín

December 2, 2016 – Ghost Ship fire, Oakland, CA USA – 36 dead

June 14, 2017 – Grenfell Tower fire, London, England – 72 dead

April 7, 2018 – Trump Tower fire, New York, NY USA – 1 dead

The Ghost Ship fire – December 2, 2016

A warehouse had been illegally converted to artists quarters

A concert was taking place at the time of the fire, with about 50 people present in the building, most on the 2nd floor

The fire originated on the 1st floor, cause unknown, but suspected to be improper wiring or a defective appliance

Escape from the building was complicated by a maze of artwork, mannequins and furnishings

Neither of two stairways within the building led to an exit, one was hidden behind furniture and the other built from wooden pallets

No fire sprinklers; smoke detectors reportedly were not heard



The Grenfell Tower fire – June 14, 2017

The fire is believed to have originated in a refrigerator-freezer on the 4th floor of the 24-story residential building built in 1967.

With no fire sprinkler system, flames extended out the window and ignited combustible cladding on the building exterior that was added during a 2015-2016 renovation.

Residents were advised to stay in place, but fire spread quickly across the building surface cladding and engulfed the building. The building had a single central staircase.

In the aftermath of this fire, local jurisdictions in England have announced plans for retrofit of fire sprinkler systems in more than 500 similar tower blocks, and the Royal Institute of British Architects has called for more prescriptive codes, including fire sprinkler systems for all new residential buildings more than 3 stories tall.



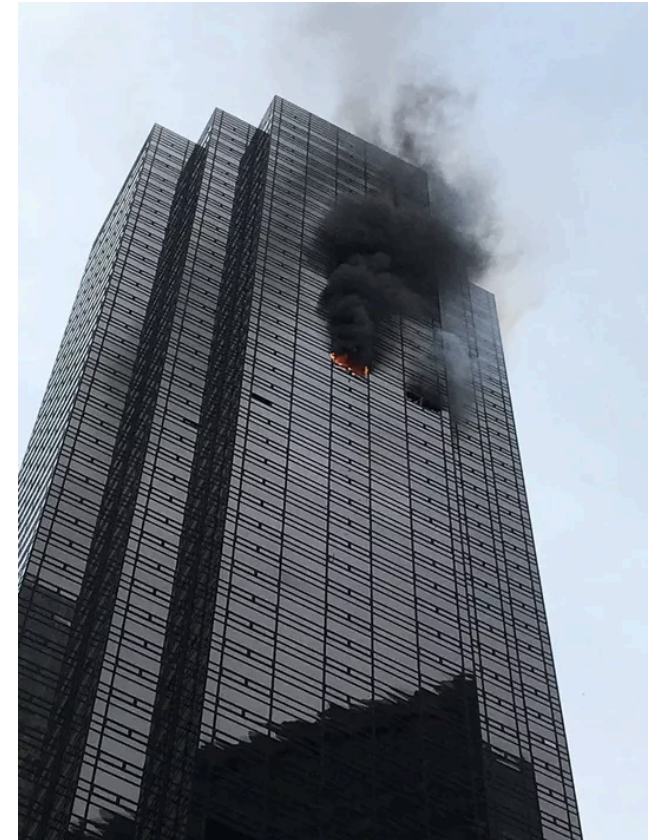
The Trump Tower fire – April 2, 2018

The fire took place on the 50th floor of the Trump Tower on 5th Avenue in Midtown Manhattan, where the U.S. President maintains a private residence on floors 66 through 68.

One man died, and six firefighters were injured in the blaze.

The fire was blamed on overloaded electrical power strips.

The building, which contains 263 apartments on the upper floors and opened in 1983, was not equipped with a fire sprinkler system.



Donald Trump – No Fan of Fire Sprinklers

In 1999, the National Fire Sprinkler Association and allied groups testified before the New York City Council when it was learned that Trump planned to build a 72-story Trump World Tower at United Nations Plaza without sprinklers.

Although NYC then updated its codes to require sprinklers in all new residential buildings with 4 or more units, Trump was successful in filing a building permit before the requirement became effective; He ultimately installed sprinklers during construction, reportedly due to buyer pressure.



METRO

Trump battled fire-sprinkler laws for city high-rises in the 90s

By Max Jaeger

April 8, 2018 | 4:16pm



The Difference Fire Sprinklers Make

A properly designed, installed, and maintained automatic fire sprinkler system would have been expected to prevent fire deaths in all three of these fires.

There has never been a multiple loss of life of building occupants from a fire originating in a building protected by a properly designed, installed and maintained automatic fire sprinkler system.

Fire sprinklers make up for a wide range of other fire protection deficiencies.

The Fire Safety Concepts Tree

Using “and” and “or” gates, the tree shows there are multiple paths to fire safety, including prevention of fires.

This section addresses ways to “manage” the fire

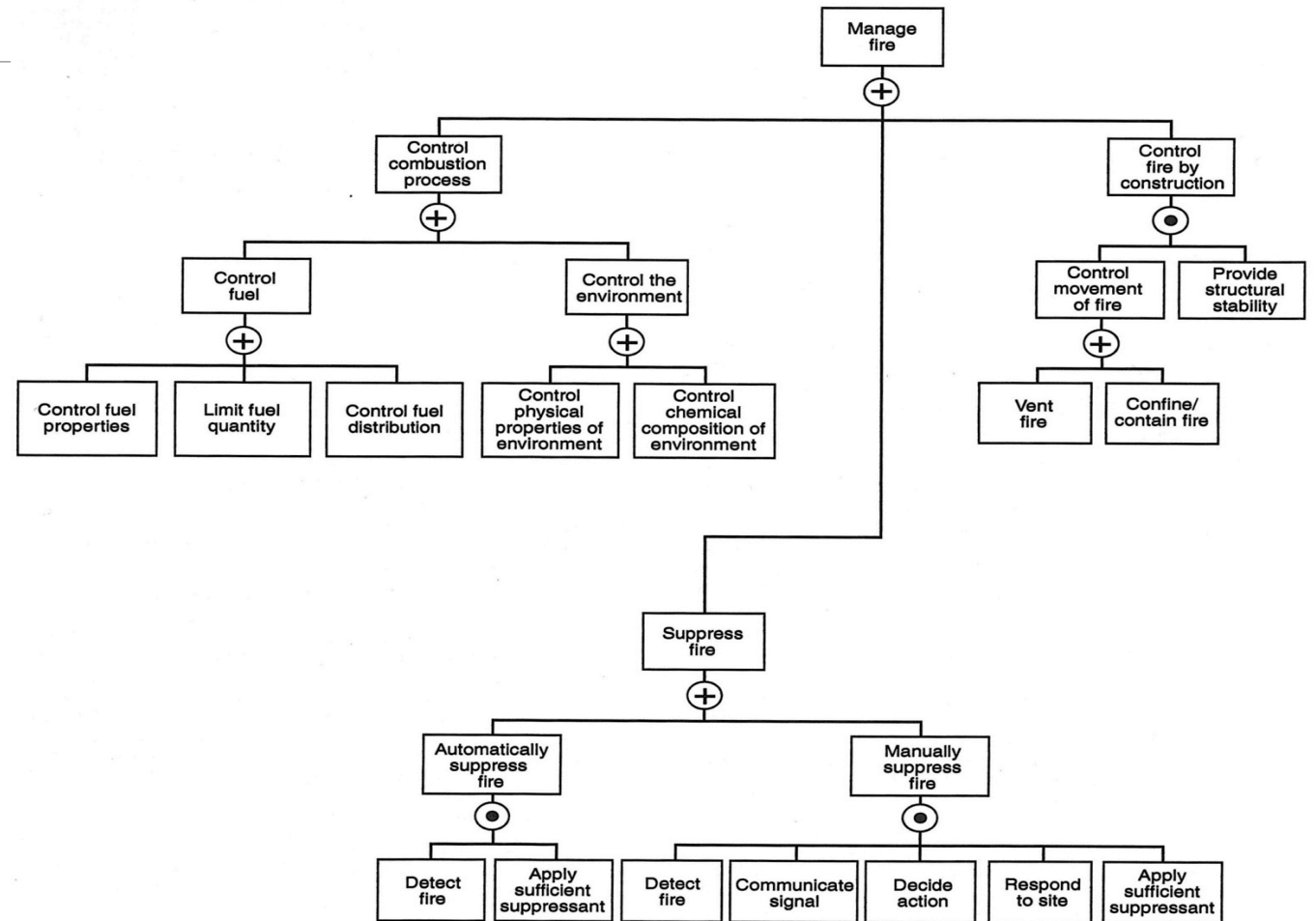
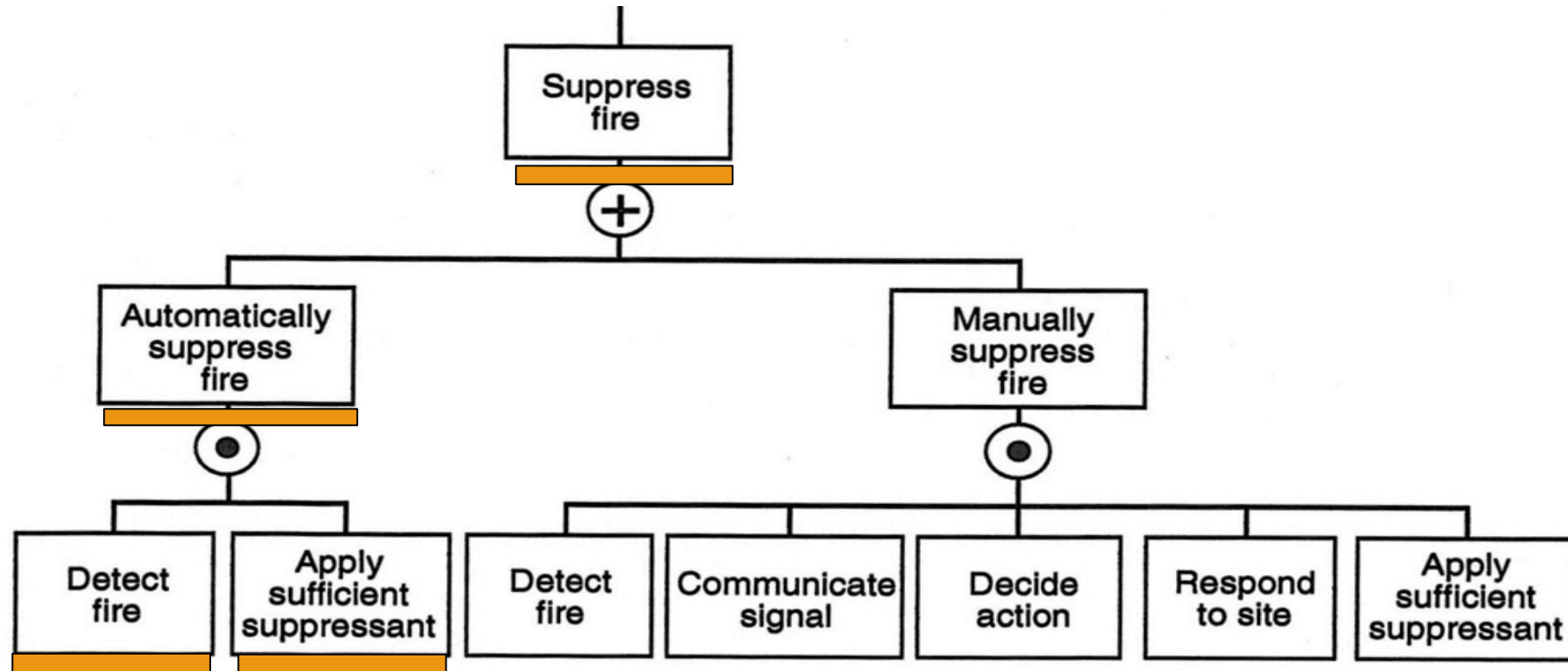


FIGURE 4.5.1 “Manage Fire” Branch of Fire Safety Concepts Tree.

The Fire Safety Concepts Tree



The ability to both “Detect Fire” and “Apply Sufficient Suppressant” = “Suppress Fire”

The Fire Safety Concepts Tree

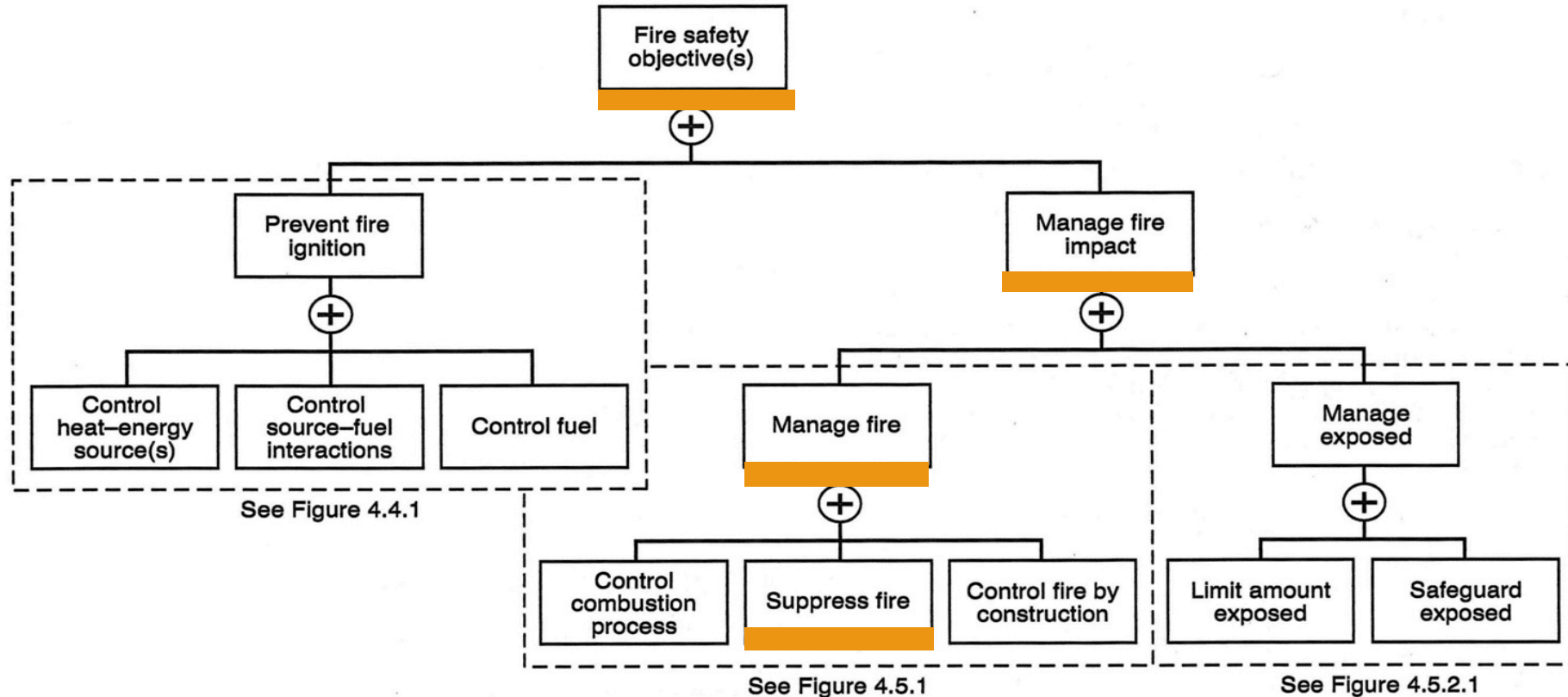


FIGURE 4.3 Top Gates of Fire Safety Concepts Tree with Selected Lower-Tiered Gates.

Suppressing the fire “manages” the fire and its impact, reaching the Fire Safety Objective

Fire Sprinkler Reliability

Inspection reports analyzed in Denmark in 2001 showed that 98% of the systems were capable of functioning as intended

A 2017 UK Chief Fire Officers Report found sprinkler systems were effective on 99% of fires when operating, and operated as expected on 94% of fires

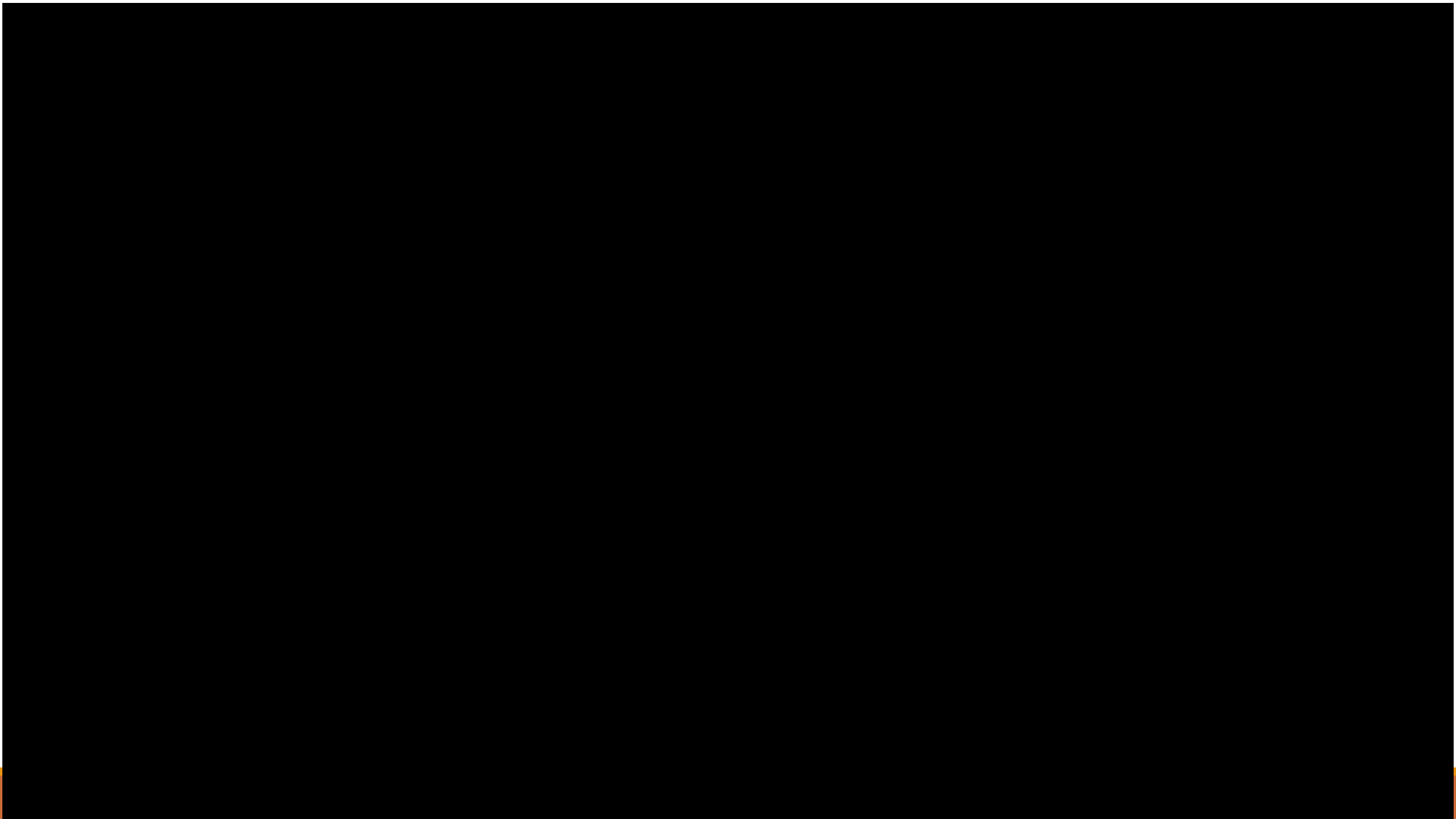
A Brandkonsultan review of Swedish Rescue Services data from 2004 to 2015 showed reliability of sprinkler systems >99%

Protecting Fire Sprinkler Reliability

Since the February 2016 FSA in Medellín, the number of sprinklers installed worldwide each year has surpassed the number of human births, i.e. 130 to 136 million annually.

It is increasingly difficult to discuss the number of sprinklers installed due to the growing number of noncertified or counterfeit sprinklers, which cannot truly be considered fire sprinklers.

The IFSA is asking industry leaders and government regulatory authorities to assist the effort to ensure that fire sprinklers and other key components are properly certified by reputable product testing laboratories, and has prepared a video on this subject.



Recent Lessons

Ghost Ship – Existing codes must be properly enforced

Grenfell Tower – Performance-based codes may fall short of fire safety unless proper oversight is provided

Trump Tower – Resistance to fire sprinklers can be overcome by public demand

Enduring Lessons

Fire sprinkler systems are the single best fire protection feature, with an ability to drastically reduce the loss of life and property

The excellent record of fire sprinkler systems depends on the proper design, installation and maintenance of quality products

We need to protect the ability of fire sprinklers to provide protection, by working together to demand product and system quality

We can accomplish this by working through our industry associations created for this purpose

Working Together to Ensure that Lessons are Learned





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Thanks for your attention!!!!