



Long Beach Fire Department

FIRE SPRINKLER RETROFIT: EXISTING STRUCTURES

Mike Garcia, Fire Marshal

April 15, 2008



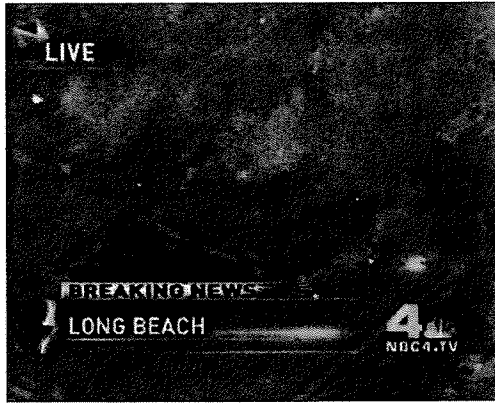
FIRE SPRINKLER RETROFIT: EXISTING STRUCTURES



- Purpose of Fire Sprinkler Systems



PARADISE GARDENS APARTMENT FIRE December 8, 2006



- 160 Units - All Units Uninhabitable
- 256 Residents Displaced
- 58 Units - Minor Damage
- 89 Units - Moderate Damage
- 6 Units - Destroyed
- 26 Patients
 - 15 Transported
- 2 Fatalities
- 17 Firefighters Injured
 - 7 Transported



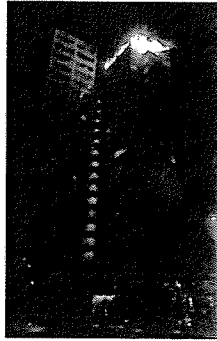
SUMMARY OF PROGRESS



- 12-19-2006** Council requested a report on existing Fire Codes and recommendations for changes to be submitted to the Public Safety Committee
- 1-30-2007** Staff report with recommendations was presented to the Public Safety Committee
- 4-03-2007** Fire, Building and Industry presentations made to Public Safety Committee
- 5-22-2007** Public Safety Committee recommends to Council the adoption of the 8 Fire Sprinkler and Fire Alerting Systems recommendations
- 6-19-2007** Council approves 5 of the 8 recommendations and refers the remaining 3 to the Economic Development and Finance Committee for further review



GALAXY TOWERS FIRE March 24, 2007



- The fire occurred on the 18th floor with 1 fatality.



ADOPTED CHANGES TO FIRE CODE



1. New Construction – Fire Sprinklers
 - All *new multi-family (3 or more units) residential, hotels, motels and similar buildings* to be protected by fire sprinkler systems.
 - All *new single-family dwellings and duplexes* greater than 4,000 sq. ft. or more than 2 stories in height to be protected by fire sprinkler systems.
 - All *new commercial, industrial and non-residential* buildings that require 2 or more exits or that are greater than 3,000 sq. ft. to be protected by fire sprinkler systems.



ADOPTED CHANGES TO FIRE CODE



2. Existing Construction – Fire Alarms

- All **existing multi-family residential, hotels and motels** to upgrade existing fire alarm system to current code at the time of replacement of the existing non-functioning fire alarm control panel.
- All **existing high-rise** (over 75 feet) buildings as defined by the California Building Code to upgrade existing fire alarm system to current code at the time of replacement of the existing non-functioning fire alarm control panel.



LIFE SAFETY IS OUR No. 1 PRIORITY



The new ordinances provide a fire safe environment for the occupants of newly built buildings with fire sprinkler systems.

The dangers of fire, which we witnessed in the Paradise Gardens and Galaxy Towers' fires, remain high in similar buildings without fire sprinkler systems.

The Fire Department wants to ensure the safest living environment for our community.



PENDING RECOMMENDATIONS



Existing Construction – Fire Sprinklers

1. Require all **existing multi-family residential, hotels and motels** containing **50 or more units** to be retrofitted with fire sprinkler systems *within a period not to exceed 5 years.*

Require all **existing multi-family residential, hotels, motels and buildings less than 50 units** to be retrofitted with fire sprinkler systems **only when** (1) addition is greater than 5,000 sq. ft., or 25% of the existing square footage, or (2) alteration, repair or rehabilitation is equal to or greater than 25% of the replacement cost of the building, over a period of **3 years.**

2. Require all **existing single-family dwellings and duplexes**, when additions are made and the total sq. ft. is greater than 4,000 sq. ft. or more than 2 stories in height, to be protected by fire sprinkler systems.
3. Require all **existing high-rise** (over 75 feet) buildings as defined by the California Building Code to be retrofitted with fire sprinklers *within a period not to exceed 10 years.*



BENEFITS OF SPRINKLER SYSTEMS



- Residential fire problems represent approximately 80% of all fire deaths and 76% of the injuries to civilians
- Fire sprinklers are 96% effective in the control of fire
- Fire sprinkler systems provide a safer environment for one's family, protection of investment and irreplaceable family possessions and, in some instances, lowers insurance rates 5 to 20%
- Property damage losses are 85% less in residences with fire sprinklers



CHALLENGES TO INSTALLING FIRE SPRINKLER SYSTEMS



- **Costs**
- **Imposition/disruption during construction process**
- **Other**



ESTIMATED COSTS OF INSTALLATION



The following cost estimates for fire sprinklers in existing occupancies are as follows:

Existing single/two family	\$3.00 to \$4.00 per square foot
Existing multi-family residential	\$4.00 to \$5.00 per square foot
Existing high-rise	\$5.00 to \$6.00 per square foot

Estimated cost example: Retrofitting a three story 12-unit apartment building would cost approximately \$48,000-\$60,000.

Variables: Building condition and size, access, water main location unknown hazards, and type of installation (In ceiling or soffits).

(Source for 2006 Estimate: XL Fire Protection, City of Santa Ana, CA - Project examples include La Quinta Inn-Lake Forest, Breaker's Hotel-Long Beach, and Wrigley Mansion-Catalina Island.)



JURISDICTIONAL COMPARISONS



The following are a few examples of other cities' requirements for fire sprinkler retrofit:

<u>City</u>	<u>Hi-Rise/ Res/Non-Res</u>	<u>Multi-Family Residential</u>
Los Angeles	All, Except Apts/Condo's	Alterations + 50% Floor Area
Glendale	All	Alterations + 50% Value or Additions w/+ 1,000 sq ft
San Diego	All, Except Apts/Condo's	Unknown
San Francisco	All, Except Apts/Condo's	Unknown



JURISDICTIONAL COMPARISONS



The following are a few examples of other cities' requirements for fire sprinkler retrofit:

<u>City</u>	<u>Hi-Rise/ Res/Non-Res</u>	<u>Multi-Family Residential</u>
Santa Monica	Unknown	+1,000 sq ft or Alterations of + 50% of value
Denver	Business/Mercantile/Hotels	Unknown
Chicago*	All commercial by 2017 (Residential requires minimum level of fire safety alternatives)	
New York	All office buildings by 2019/Restored storage, laundry rooms, and rubbish areas of all Hi- & Mid-Rise buildings	

*Minimum Safety Alternatives: Extinguishers, evacuation plan, compartmentalization, stair pressurization and detection and warning systems

Submitted @ the EDF meeting 4/15/08



CONCLUSION



The Fire Department understands the financial implications related to the installation of a fire sprinkler system. We have worked to put forth reasonable time frames in the proposed recommendations.

In trying to ensure the safest living environment for our community, there is no alternative that is as effective as the combination of fire alerting and fire sprinkler systems.