City of Long Beach
Working Together to Serve

Memorandum

R-39

Date: June 19, 2007

To: Honorable Mayor and City Council

From: Councilmember Val Lerch, Chair, Public Safety Committee

Subject: **RECOMMENDATION TO ADOPT THE EIGHT (8) RECOMMENDATIONS ON FIRE SPRINKLERS AND FIRE ALERTING SYSTEMS**

The Public Safety Committee, at its meeting held May 22, 2007, considered communications relative to the above subject.

It is the recommendation of the Public Safety Committee to the City Council to request the City Attorney to prepare an Ordinance adopting the recommendations on fire sprinklers and fire alerting systems, and that the communications on file be received and adopted.

Respectfully submitted,

PUBLIC SAFETY COMMITTEE

_____
Councilmember Val Lerch, Chair

Prepared by:
Gloria Harper

CITY OF LONG BEACH

DEPARTMENT OF FIRE

925 Harbor Plaza, Suite 100 • Long Beach, CA 90802 • Telephone (562) 570-2500 • FAX (562) 570-2506

DAVID W. ELLIS
FIRE CHIEF

June 19, 2007

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Request the City Attorney to prepare an Ordinance adopting the recommendations on fire sprinklers and fire alerting systems (Citywide)

DISCUSSION

As a result of the Paradise Gardens Apartment fire of December 8, 2006, the City Council requested the Fire Marshal and the Building Official to complete an evaluation of the current fire and building code requirements pertaining to fire sprinklers and fire alerting systems within the City of Long Beach.

A presentation with recommendations was presented to the Public Safety Committee on January 30, 2007 at which time the Public Safety Committee directed staff to investigate possible funding sources for the installation of fire sprinkler and fire alerting systems.

A presentation on funding sources and community outreach was presented to the Public Safety Committee on April 3, 2007 at which time the Public Safety Committee directed staff to provide presentations by industry professionals on fire sprinkler installations, new technologies regarding fire protection systems and insurance premium evaluations by the Insurance Services Office (ISO).

A presentation by industry professionals was presented to the Public Safety Committee on May 22, 2007. The Public Safety Committee subsequently recommended that the recommendations listed below be submitted to the City Council for approval.

RECOMMENDATIONS

The recommendations developed are an effort to improve fire and life safety and are separated into three distinct areas as follows:

- New Construction – Fire Sprinklers
- Existing Construction – Fire Sprinklers
- Existing Construction – Fire Alarms

New Construction – Fire Sprinklers

1. Require all ***new multi-family (3 or more units) residential, hotels, motels*** and similar buildings to be protected by fire sprinkler systems.

2. Require all ***new single-family dwellings and duplexes*** greater than 4,000 sq. ft. or more than two-stories in height to be protected by fire sprinkler systems.

3. Require all ***new commercial, industrial and non-residential*** buildings that require two or more exits or that are greater than 3,000 sq. ft. to be protected by fire sprinkler systems.

Existing Construction – Fire Sprinklers

4. (a) 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 five years.***

   (b) 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 three years.

5. 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 two stories in height, to be protected by fire sprinkler systems except when the increase in square footage of the building is 10% or less over a period of three years.

6. 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 ten years.***

Existing Construction – Fire Alarms

7. Require 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.

8. Require 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.

PUBLIC SAFETY COMMITTEE RECOMMENDATIONS

At the meeting of the Public Safety Committee of May 22, 2007 the Committee also recommended the following in addition to the above listed recommendations:

A. Approve recommendation that the Fire Department work with the City Attorney's Office to draft an ordinance that would allow flexibility in the implementation of the requirements for the retrofitting on a case by case basis, the report should also include the number of condominiums that would be impacted by the implementations of the retrofitting and legal ramifications as determined by the City Attorney.

Available records indicate that 37 condominium occupancies with 50 or more units and 15 condominium high-rise buildings are not fully fire sprinklered and would be impacted by the proposed ordinance for the retrofitting of fire sprinklers.

In addition, none of the over 7,000 multifamily residential occupancies containing less than 50 units will be required to be fire sprinklered unless such occupancies have additions greater than 5,000 sq. ft., or 25% of the existing square footage, or alteration, repair or rehabilitation is equal to or greater than 25% of the replacement cost of the building, over a period of three years.

The Fire Department currently has the ability to evaluate and modify provisions of the code on a case-by-case basis as allowed by the Fire Code as follows:

> **2001 California Fire Code Section 103.1.3 Practical Difficulties.**
> *The Chief is authorized to modify any of the provisions of this code upon application in writing by the owner, a lessee or a duly authorized representative where there are practical difficulties in the way of carrying out the provisions of the code, provided that the spirit of the code shall be complied with, public safety secured and substantial justice done. The particulars of such modification and the decision of the chief shall be entered upon the records of the department and a signed copy shall be furnished.*

In order to assist the Fire Chief in the evaluation of proposed code alternates, it is recommended that an advisory board be developed to assist in evaluating such cases involving the adopted retrofit ordinance for fire sprinklers and fire alerting systems. The advisory board would be comprised of City staff and approved community members including the Fire Marshal, the Building Official, the City Attorney's Office and others that could address those unique occupancies on a case-by-case basis of the buildings impacted by the retrofit ordinance.

In addition, if the applicant does not concur with the advisory boards findings then a final appeal can be presented to the City's Board of Appeals for final action.

In order to assist applicants with the approval process it is proposed that the Fire Department designate a Fire Department Liaison. The Liaison will be available to assist applicants with fire code issues thereby expediting the approval process.

B. Approve recommendation that would require those buildings that cannot be retrofitted with a fire sprinkler system as indicated by the Fire Chief as having a need for a sufficient fire suppression system be required to have mandated educational programs, required fire drills and fire extinguishers in each unit.

Staff will develop, in cooperation with stakeholders, a fire prevention educational campaign targeting residential fire prevention education. The owner/manager of such facilities shall install a fire extinguisher as approved by the Fire Department in each residential unit. The owner/manager shall validate to the Fire Department that such extinguishers are in place and available for use by the occupants.

C. Approve recommendation that a list of all permanent tenants that have special emergency evacuation needs be given to the Fire Chief on a voluntary basis.

The Fire Department will coordinate the voluntary tenant evacuation list with the owner/ manager of the occupancy. The list will be kept on site and filed in a manner as approved by the Fire Department.

CONCLUSION

Fire sprinklers have been in existence for over 100 years and have proven to be an effective method of suppressing fire in all types of occupancies. The loss of life and property in fire-sprinklered buildings is dramatically reduced compared to non-sprinklered buildings.

The recommendations proposed address life safety hazards associated with non-sprinklered occupancies. Additional changes can be made as necessary or on a triennial basis at the time of the regular readopting of the Fire and Building Codes.

This letter was reviewed by Deputy City Attorney Gary Anderson and Budget and Performance Management Bureau Manager David Wodynski on June 7, 2007.

TIMING CONSIDERATIONS

Council action on this item is not time critical.

FISCAL IMPACT

The estimated cost to install fire sprinklers and alarm systems will vary by project for affected property owners. There is no immediate cost to the City. However, increased staffing for plan review and inspections could be required in future years, but would be offset by user fees.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,

DAVID W. ELLIS
FIRE CHIEF

SUZANNE FRICK
DIRECTOR OF PLANNING AND BUILDING

APPROVED:

for GERALD R. MILLER
CITY MANAGER

Attachment:
Fire Sprinklers and Fire Alerting Systems – Summary Report

Q:\Administration\City Council letters\Fire Sprinkler Report\Fire Sprinkler Fire Alerting CCL 06-19-07.doc

Fire Sprinklers
and
Fire Alerting Systems
Summary Report

Referred from the
Public Safety Committee

June 19, 2007

Hank Teran, Fire Marshal
Larry Brugger, Building Official

Table of Contents

Fire Suppression &
Alert Recommendations

REPORT ON FIRE SUPPRESSION AND FIRE ALERT REQUIREMENTS

Executive Summary

As a result of the devastating Paradise Gardens Apartment fire of December 8, 2006, the City Council requested the Fire Marshal and the Building Official to complete an evaluation of the current fire and building code requirements pertaining to fire sprinklers and fire alerting systems within the City of Long Beach.

This report documents the impact of fire sprinklers and fire alerting systems and the effectiveness of such systems on fire and life safety and recommends amendments to existing regulations.

Historical Overview

The Long Beach Municipal Code has adopted both the 1997 Uniform Building Code and 2000 Uniform Fire Code with 2001 California State and local amendments. The Fire Department enforces the Fire Code while the Department of Planning and Building enforces the Building Code.

The Uniform Fire and Building Codes are publications that are recognized nationally and are published on a triennial basis. The codes are reviewed and adopted by the State and maybe amended or revised by the local enforcing agencies to meet the needs of the community. Local jurisdictions may amend the codes as long as the amendments are not less restrictive than the published code and appropriate findings are made to justify such amendments.

As the codes develop through the years, the tendency is for the most recently published code to become more restrictive than in the prior editions. The main catalyst for such code changes tend to be incidents of a significant nature that bring to light code issues that need to be revised to save lives and reduce property damage.

The requirements for fire sprinklers and fire alerting systems are specified in both the Building and Fire Codes. The requirements for such systems vary according to a number of building design features such as:

- Occupancy type
- Construction type
- Building height and area
- Hazardous conditions and use of the occupancy

The model codes have progressed since the 1960's to require fire sprinklers and fire alerting systems in residential and non-residential occupancies. For example, residential occupancies constructed in the 1960's were required to comply with only minimal code standards as compared with today's requirements. (Attachment A)

The current codes adopted by the City of Long Beach, herein referred to as the Long Beach Municipal Code, for new construction are not as restrictive as other cities when it comes to the requirements of fire sprinklers. The Long Beach Municipal Code currently only has a minimal number of more stringent requirements than the model State code. For example, retail sales areas are required to be fire sprinklered at 5,000 square feet or more per the Long Beach Municipal Code as compared to the model State code requirement of 12,000 square feet. In addition, the municipal or model State codes do not address the issue of the retrofitting of fire sprinklers in any existing occupancy including multi-family residential or high-rise buildings. The only upgrades currently realized are on a voluntary basis or when a change of occupancy is made.

The Long Beach Municipal Code or model State code does not require the retrofit of fire alerting systems in any existing occupancy including multi-family residential or high-rise buildings. The current method of upgrading a fire alerting system is on a voluntary basis.

A number of cities such as the City of Los Angeles, San Diego, San Francisco, and San Jose have adopted a variety of retrofit fire sprinkler ordinances for existing high-rise buildings. In fact, the City of San Jose fire sprinkler ordinance of 1990 required **all** high-rise buildings to be fire sprinklered within three years. The current Long Beach Municipal Code does not adopt such an ordinance requiring fire sprinklers in existing high-rise building.

A high-rise building is defined as any building with floors used for human occupancy over 75 feet in height from the lowest point of fire department access. The hazards associated with high-rise buildings include:

- Height of fire floor
- Number of firefighting resources required
- Delays in deploying equipment due to height
- Exiting delays due to height
- Number of occupants and fuel load per floor
- Smoke and fire spread

Currently there are over 70 high-rise buildings in the City of Long Beach, which include office buildings, residential apartments, condominiums and hotels. Records on file estimate that only 54% of these high-rise buildings are currently fire sprinklered.

Fire Sprinklers

The installation of fire sprinkler systems is of paramount importance for all occupancies but especially for residential occupancies. According to the U.S. Fire Administration, the residential fire problem represents approximately 80% of all fire deaths and 76% of the injuries to civilians.

The U.S Fire Administration reports that fires in residences have taken a high toll of life and property. In 2005 there were:

- 396,000 residential fires
- 3,055 civilian fire deaths
- 13,825 civilian fire injuries
- $6.8 billion in property damage

Properly installed and maintained automatic fire sprinkler systems help save lives and property. Because fire sprinkler systems react so quickly, they can dramatically reduce the heat, flames and smoke produced in a fire. Together with smoke detectors, sprinklers cut the risk of dying in a home fire by 82%, according to the National Fire Protection Association (NFPA).

Fire sprinklers are extremely effective in combating fire in residential and non-residential occupancies; according to NFPA fire sprinklers are 96% effective in the control of fire. In fact, there has never been a documented case of a fire killing more than two people in a completely sprinklered public assembly, educational, institutional or residential building where the fire sprinkler system was working properly.

Property damage is also greatly reduced in sprinklered buildings. In fact, NFPA records indicate that property damage losses are 85% less in residences with fire sprinklers.

In addition to the fire safety benefits of fire sprinklers other advantages of installing fire sprinklers include the assurance of a safer environment for one's family, protection of investment and irreplaceable family possessions and, in some instances, lowers insurance rates of 5 to 20 percent. (Attachment B)

Fire Alerting Systems

The fire alerting system, or commonly referred to as a fire alarm system, is designed to provide early notification to occupants of smoke or fire within an area or occupancy. The systems are **not** designed to extinguish a fire but simply notify the occupants that a fire condition exists.

The majority of required fire alarm systems are installed in multi-family residential, assembly, educational and convalescent occupancies where early notification is required for evacuation purposes.

One of the problematic areas with existing fire alarm systems is that a significant number of these systems do not meet current standards for audibility, visual notification and smoke detector locations.

A fire alarm system is a key element among fire protection features of any building. Due to the fact that most fire deaths in the United States result from building fires, the

use of fire alarm systems in buildings can help to significantly reduce the loss of life from fire.

Code Comparison to Other Jurisdictions

The model codes have historically been conservative on the subject of fire sprinklers in residential type occupancies. Many jurisdictions have adopted local ordinances that are more restrictive than the model codes.

An analysis was conducted of various cities throughout California regarding local requirements for fire sprinklers and fire alerting systems for both new and existing occupancies. The analysis found that of the cities that responded, over 30 cities have adopted fire sprinkler ordinances that are more restrictive than the model codes. The major cities with such ordinances have been provided. (Attachment C)

For example, the City of Glendale adopted a fire sprinkler ordinance in 1989 requiring **all** new construction to be fire sprinklered. They also adopted in 1989 a retrofit fire sprinkler ordinance for existing residential and non-residential occupancies when building modifications are made.

In regards to fire alarm systems, the City of Los Angeles requires buildings with existing fire alarm systems to be upgraded to comply with current code requirements throughout the building when the fire alarm panels are required to be replaced due to obsolescence.

The issue of adopting more restrictive code requirements for fire protection systems is a common practice and consistent with other jurisdictions' attempts to decrease fire fatalities and property damage in their respective communities.

Opposition Discussion

Despite the fact that fire sprinklers have proven to save lives and property, opposition to adopting a more restrictive ordinance than the model codes for either new construction or for existing structures can be expected from owners, developers and other interested parties.

For new construction developments, opposition can be anticipated from developers and owners who may incur increased construction cost associated with the installation of fire sprinklers.

In existing buildings, owners and tenants may argue against the additional cost and disruptions associated with the retrofit installation of fire sprinklers and fire alarm systems. Building owners will have logistical issues such as gaining access to occupied tenant areas, possible asbestos abatement, possible tenant relocation, noise disruptions and other inconveniences.

In order to assist the public with compliance with any proposed requirements it is essential that a reasonable time frame be established that takes into consideration the financial and logistical problems associated with retrofitting existing buildings. An extended time frame will enable the owner of an existing building to not only budget the cost associated with fire sprinklers, but with scheduling contractors, ensuring tenant access and possible business interruption.

Estimated Cost of Installation

The estimated cost of installing fire sprinklers will vary between new and existing construction. The following cost estimates for fire sprinklers in new construction projects are as follows:

New single/two family	$2.50 to $3.00 per square foot
New multi-family residential	$3.00 to $4.00 per square foot
New non-residential	$4.00 to $5.00 per square foot

*New high-rise occupancies are not included due to mandatory fire sprinkler requirements per model code.

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

*An estimated cost of $48,000-$60,000 would be required for a three story 12-unit apartment building.

The indirect cost not estimated in the calculations will vary depending on the building features such as area, height, type of construction, water meter fees and location to available water main connections and associated piping.

For existing occupancies additional cost may also be incurred due to the age of the occupancy and for such items as asbestos abatement and property vacancies due to the installation of new fire protection systems, possible tenant displacement and business interruption.

The estimated cost of installing fire alarm systems will vary for high-rise and non-high-rise occupancies. The following cost estimates for fire alarm systems are as follows:

Existing non-highrise	$1.00 per square foot
Existing highrise	$1.25 per square foot

*New high-rise occupancies are not included due to mandatory fire alarm requirements per model code.

As with fire sprinkler installations, an indirect cost not estimated in the calculations will depend upon the buildings features such as area, height, and type of construction.

City Fiscal Impact

The funding for additional staffing required to support the proposed ordinances would be offset by the collection of plan review and inspection fees. The plan review and inspection services for fire sprinklers installation are conducted exclusively by the Fire Department.

For the installation of fire alarm systems, additional staffing required to support the proposed ordinances would be offset by the collection of plan review and inspection fees. The plan review and inspection services for fire alarm installations are conducted by both the Fire Department and Department of Planning and Building.

Recommendation

It is respectfully recommended that the following actions be implemented:

New Construction – Fire Sprinklers

1. Require all ***new multi-family (3 or more units) residential, hotels, motels*** and similar buildings to be protected by fire sprinkler systems in accordance with applicable National Fire Protection Association standards. (Current code requires fire sprinklers at 5 or more units)

2. Require 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 in accordance with applicable National Fire Protection Association standards.

3. Require 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 in accordance with applicable National Fire Protection Association standards.

Existing Construction – Fire Sprinklers

4. Require all ***existing multi-family residential, hotels, motels*** and similar buildings containing fifty or more units to be retrofitted with fire sprinkler systems in accordance with applicable National Fire Protection Association standards, ***within a period not to exceed 5 years.***

   Require all ***existing multi-family (3 or more units) residential, hotels, motels*** and similar buildings less than fifty units to be retrofitted with fire sprinkler systems in accordance with applicable National Fire Protection Association

standards **only when** (1) any addition is equal to or greater than 5,000 sq. ft. or, 25% of the existing square footage of the building or (2) or when any alteration, repair, rehabilitation is equal to or greater than 25% of the replacement cost of the building, over a period of three years.

5. 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 in accordance with applicable National Fire Protection Association standards except when the increase in square footage of the building is 10% or less over a period of three years.

6. Require all ***existing high-rise*** (over 75 feet) buildings as defined by the California Building Code to be retrofitted with fire sprinklers in accordance with applicable National Fire Protection Association standards, ***within a period not to exceed 10 years.***

It is staff's recommendation that a period of ten years be established for the retrofit of fire sprinkler systems for high-rise buildings and five years for other occupancies. It is proposed that the installation would be phased with key benchmarks identified within the time frame.

Existing Construction – Fire Alarms

7. Require all ***existing multi-family (3 or more units) residential, hotels, motels,*** and similar buildings to be retrofitted with a fire alarm system in accordance with applicable National Fire Protection Association standards. The requirement to upgrade the existing fire alarm system to current code will be required at the time of replacement of the existing non-functioning fire alarm control panel.

8. Require all ***existing high-rise*** (over 75 feet) buildings as defined by the California Building Code to be retrofitted with a fire alarm system in accordance with applicable National Fire Protection Association standards. The requirement to upgrade the existing fire alarm system to current code will be required at the time of replacement of the existing non-functioning fire alarm control panel.

In regards to retrofit of fire alarm systems it is staff's recommendation that the requirement to upgrade the existing fire alarm system to current code be required at the time of the replacement of the existing fire alarm control panel, due to the lifespan of the panel and unavailability of replacement parts.

Conclusion

Fire sprinklers have been in existence for over 100 years and have proven to be an effective method of suppressing fire in all types of occupancies. The loss of life and

property in fire-sprinklered buildings is dramatically reduced compared to non-sprinklered buildings.

The events of December 8, 2006, however tragic in nature, can bring about a positive result. The current code requirements in effect, however compliant, should be revised in order to address life safety hazards associated with non-sprinklered occupancies.

The recommendations proposed are a starting point for making changes to the code. Additional changes can be made as necessary or on a triennial basis at the time of the regular readopting of the Fire and Building codes.

Enhanced fire protection requirements will provide critical improvements for those who live, work and play in the City of Long Beach.

DWE:HT
Q:\Administration\City Council letters\Fire Suppression-Alert Rpt.doc

Chronological Timeframe of Fire & Life Safety Requirements From the Uniform Fire and Building Code 1964 to 2001

Fire Sprinkler Requirements

1964 - Wet Class II standpipes (1927 UBC had similar language) No sprinklers except in basements

1988 - More than 15 dwelling units or 3 or more stories require sprinklers and hotels 3 or more stories or containing 20 or more guest rooms

1991 - 16 or more dwelling units or 3 or more stories require sprinklers and hotels 3 or more stories or containing 20 or more guest rooms

2001 - 5 or more dwelling units or 3 or more stories require sprinklers and hotels 3 or more stories or containing 20 or more guest rooms

Fire Alarm Requirements

1964 - none

1970 - Apartments 3 or more stories in height and containing more than 15 units and every hotel 3 or more stories in height or 20 or more guest rooms (requirement is from the Uniform Fire Code only)

1973 - Apartments 3 or more stories in height and containing more than 15 units and every hotel 3 or more stories in height or 20 or more guest rooms

- Smoke detectors required in central locations near areas of access to sleeping rooms in apartment houses

1976 - Apartments 3 or more stories in height and containing more than 15 units and every hotel 3 or more stories in height or 20 or more guest rooms

- Smoke detectors required in central locations near areas of access to sleeping rooms in apartment houses and hotels

1982 - Apartments 3 or more stories in height or containing more than 15 units and every hotel 3 or more stories in height or 20 or more guest rooms

- Smoke detectors required in central locations near areas of access to sleeping rooms in apartment houses and hotels

1991 - Apartments 3 or more stories in height and containing 16 or more units and every hotel 3 or more stories in height or 20 or more guest rooms

- Smoke detectors required in central locations near areas of access to sleeping rooms in apartment houses and hotels

2001 - Apartments 3 or more stories in height and containing 16 or more units and every hotel 3 or more stories in height or 20 or more guest rooms

- Smoke detectors required in central locations near areas of access to sleeping rooms in apartment houses and hotels

INSURANCE PREMIUM DISCOUNTS FOR PROPERTIES PROTECTED BY FIRE SPRINKLER AND/OR FIRE ALARM SYSTEMS

Many insurance companies offer discounts to residential and commercial properties protected by automatic fire sprinklers and/or fire alarm systems. Discounts vary by individual underwriters and specific properties being protected but discounts to premiums generally range from 5-20%.

COMPANY	FIRE SPRINKLER DISCOUNT	FIRE ALARM DISCOUNT
STATE FARM	Full System = 10% Partial System = 5%	Monitored = 10% Local Only = 2%
FARMERS	Full System = 10% Partial System = 5%	Monitored = 5% Local Only = 3%
ALLSTATE	5%*	5%*
AAA	2%*	2%*

* Approximate premium discount contingent upon other fire & life safety building features such as roof type, locking hardware, distance to nearest fire station, and other. Discount may be more or less than figure provided.

Definitions:

1) Full System — All areas of the building are provided with fire sprinkler protection.

2) Partial System — All areas of the building are provided with fire sprinkler protection except for very specific areas such as bathrooms, closets, attics and other.

3) Monitored Fire Alarm System — A fire alarm system that alerts occupants to an emergency and is monitored 24 hours a day by an offsite company that notifies the fire department should an alarm condition be reported.

4) Local Fire Alarm System — A fire alarm system that locally alerts occupants of a building of an emergency, but does not transmit a signal offsite.

New Construction Fire Sprinklers				
Jurisdictions	**Non-Residential Occ'y**	**Multi Family Occ'y**	**Single Family Dwelling**	**High - Rise**
Burbank	All buildings, except U-1 Occ'y detached less than 500 sq. ft	All buildings, except U-1 Occ'y detached less than 500 sq. ft	All buildings, except U-1 Occ'y detached less than 500 sq. ft	Required by current model code - Typical
Culver City	Height increase or area increase of 50% or more	Height increase or area increase of 50% or more	Story added, 75% of roof structure replaced, or area increased by 75%	
Fresno	≥ 5,000 sq. ft.			
Glendale	All	All	All	
Riverside City Fire	All, with exceptions	All, with exceptions	All, with exceptions	
Roseville	≥ 3,600	≥ 3,600 and per CBC	> 2 stories in height and density requirements	
Santa Monica	All	All	All, except one story two car garages minimum 6 ft from residence	
Ventura County	All	All	All	
West Hollywood	All	All	All	
West Sacramento	> 4,000 sq. ft., ≥ 3 story, or ≥ 25 ft high	> 4,000 sq. ft., ≥ 3 story, or ≥ 25 ft high	> 4,000 sq. ft., ≥ 3 story, or ≥ 25 ft high	

Existing Construction Fire Sprinklers				
Jurisdictions	**Non-Residential Occ'y**	**Multi Family Occ'y**	**Single Family Dwelling**	**High - Rise**
Beverly Hills	All Bldg's 5 stories or more or 55 ft high, except R-1 apts, condo's, Also 50% value or area or addn of 5000 sq . Ft.			
Burbank	Add'n where total area is > 5,000 sq. ft. and any alteration or repairs which are ≥ 5,000 sq. ft or in 12 mo's are > 25% of replacement cost of bldg.	Add'n where total area is > 5,000 sq. ft. or where alteration or repairs in 24 mo's > 50% of the replacement cost of the bldg.	Add'n where total area is > 5,000 sq. ft. or where alteration or repairs in 24 mo's > 75% of the replacement cost of the bldg.	
Glendale	Add'n > 1000 sq. ft or where the alterarations > 50% replacement value	Add'n > 1000 sq. ft or where the alterarations > 50% replacement value	Add'n > 1000 sq. ft or where the alterarations > 50% replacement value	All
Los Angeles				All, except apartments and condominiums
Riverside City Fire	Bldg's after March 1, 1993 where add'n is > 5,000 sq. ft. or 50% of existing area	Bldg's after March 1, 1993 where add'n is > 5,000 sq. ft. or 50% of existing area	Bldg's after March 1, 1993 where add'n is > 5,000 sq. ft. or 50% of existing area	
San Diego				All, except apartments and condominiums
San Francisco				All, except apartments and condominiums
San Jose				All, within three years
Santa Monica	Bldg > 1000 sq.ft. where increase of area by 50% (in 3 yrs) or exposed constr of 50% or Bldg < 1,000 sq.ft. where increase of area by 75% or exposed constr of 75%	SFD > 1000 sq.ft. where increase of area by 33 1/3 % or SFD < 1,000 sq.ft. where increase of area by 50%	SFD > 1000 sq.ft. where increase of area by 33 1/3 % or SFD < 1,000 sq.ft. where increase of area by 50%	
Ventura County	≤ 25% of floor area for addition, remodel, or alterations	≤ 25% of floor area for addition, remodel, or alterations	≤ 50 % of floor area for addition, remodel, or alterations or 1,000	

PowerPoint Presentation

Long Beach Fire Department
and
Department of Planning and Building
FIRE SPRINKLER AND FIRE ALERTING REPORT

David W. Ellis
Fire Chief

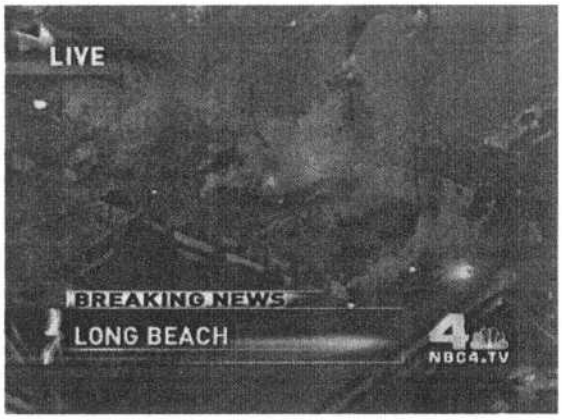
Hank Teran, Fire Marshal

Larry Brugger, Building Official

January 30, 2007

1

Paradise Gardens Apartment Fire
December 8, 2006



2

Historic Overview

- Fire Code and Building Code adoption
- Code progression
- No Retrofit Ordinance
- High-rise

3

High-Rise

- Buildings >75'
- Over 70 in the City
- Only 54% fire sprinklered
- Cooper Arms fire 1999

4

Fire Sprinkler Data

- Residential fire problem represents approximately 80% of all fire deaths and 76% of the injuries to civilians
- Fire Sprinklers are 96% effective in the control of fire
- 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

5

Fire Alerting Data

- Designed to provide early notification to occupants of smoke or fire within an area or occupancy.
- The systems are <u>not</u> designed to extinguish a fire, but simply notify the occupants that a fire condition exists.
- One of the problematic areas with existing fire alarm systems is a significant number of these systems do not meet current standards for audibility, visual notification and smoke detector locations.

6

Jurisdictional Comparison

Over 30 cities have adopted fire sprinkler ordinances that are more restrictive than the model codes.

The City of Glendale adopted a fire sprinkler ordinance in 1989 requiring all new construction to be fire sprinklered. In 1989, they also adopted a retrofit fire sprinkler ordinance for existing residential and non-residential occupancies when building modifications are made.

In regards to fire alarm systems, the City of Los Angeles requires buildings with existing fire alarm systems to be upgraded to comply with current code requirements throughout the building when the fire alarm panels are outdated and require replacement.

7

Estimated Cost

The estimated cost of installing fire sprinklers will vary between new and existing construction. The following cost estimates for fire sprinklers in new construction projects are as follows:

New single/two family	$2.50 to $3.00 per square foot
New multi-family residential	$3.00 to $4.00 per square foot
New non-residential	$4.00 to $5.00 per square foot

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.

8

Code Revision Challenges

In **existing** buildings, owners and tenants may argue against the additional cost and disruptions associated with the retrofit installation of fire sprinklers and fire alarm systems.

Logistical issues include:

- Access to occupied tenant areas
- Possible tenant relocation
- Possible asbestos abatement
- Noise disruptions

It is essential that a reasonable time frame be established that takes into consideration the financial and logistical problems associated with the retrofitting of buildings for existing occupancies. An extended time frame will enable the owner of an existing building to budget the cost associated with fire sprinkler installations.

9

Fire Demonstration

10

Fire Demonstration
Fire Sprinklers

11

Recommendations

- New Construction – Fire Sprinklers
- Existing Construction – Fire Sprinklers
- Existing Construction – Fire Alarms

12

Recommendations
New Construction – Fire Sprinklers

1. Require all ***new multi-family (3 or more units) residential, hotels, motels*** and similar buildings to be protected by fire sprinkler systems in accordance with applicable National Fire Protection Association standards. (Current code requires fire sprinklers at 5 or more units)

2. Require 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 in accordance with applicable National Fire Protection Association standards.

3. Require 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 in accordance with applicable National Fire Protection Association standards.

13

Recommendations
Existing Construction - Fire Sprinklers

4. Require all ***existing multi-family residential, hotels, motels*** and similar buildings containing 50 or more units to be retrofitted with fire sprinkler systems in accordance with applicable National Fire Protection Association standards, ***within a period not to exceed 5 years.***

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

5. 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 in accordance with applicable National Fire Protection Association standards except when the increase in square footage of the building is 10% or less over a period of three years.

6. Require all ***existing high-rise*** (over 75 feet) buildings as defined by the California Building Code to be retrofitted with fire sprinklers in accordance with applicable National Fire Protection Association standards, ***within a period not to exceed 10 years.***

14

Recommendations
Existing Construction - Fire Alarms

7. Require all ***existing multi-family (3 or more units) residential, hotels, motels,*** and similar buildings to be retrofitted with a fire alarm system in accordance with applicable National Fire Protection Association standards. The requirement to upgrade the existing fire alarm system to current code will be required at the time of replacement of the existing non-functioning fire alarm control panel.

8. Require all ***existing high-rise*** (over 75 feet) buildings as defined by the California Building Code to be retrofitted with a fire alarm system in accordance with applicable National Fire Protection Association standards. The requirement to upgrade the existing fire alarm system to current code will be required at the time of replacement of the existing non-functioning fire alarm control panel.

Staff proposes that the above recommendations be implemented by January 1, 2008.

15

Long Beach Fire Department and Department of Planning and Building

FIRE SPRINKLER AND FIRE ALERTING REPORT

David W. Ellis
Fire Chief

Hank Teran, Fire Marshal

Larry Brugger, Building Official

January 30, 2007

16

Funding &
Community Outreach

REPORT ON FIRE SUPPRESSION AND FIRE ALERT REQUIREMENTS/FUNDING INFORMATION

April 3, 2007

A staff report with recommendations was presented to the Public Safety Committee on January 30, 2007 by the Fire and Planning and Building Departments. Upon completion of the presentation, the Public Safety Committee directed the City Manager's Office to investigate possible funding sources for the installation of fire sprinkler and fire alerting systems. The following report documents the findings.

Historical Background

The requirements for fire sprinklers and fire alerting systems have historically been the responsibility of individual owners and developers of a property or occupancy. The installation of fire protection systems is required due to the hazards associated with the type of building constructed and or the use of the occupancy.

The cost of fire protection systems will fluctuate due to a number of variables such as: construction type, square footage, availability of adequate water supply, and logistical issues that will vary on a case-by-case basis.

The responsibility for both regulatory and financial requirements is typically placed upon the owner or operator of the occupancy.

Jurisdictional Funding Comparison

A survey was conducted of other jurisdictions and the practice of providing financial support for the installation of fire protection systems. A total of 41 jurisdictions were surveyed regarding any incentives in the matter of loans, grants, or reduction in fees for the installation of fire protection systems.

The investigation discovered that over 90% of the jurisdictions surveyed do not offer any financial assistance or allow for the reduction or waiving of fees for service.

City Funding Potential

City Departments were requested to investigate the possibility of providing financial assistance or reducing fees for the installation cost of fire protection systems. The following findings were noted:

Financial Management

Current fees for service, including Fire Plan Checks and Inspections and Business License Fees are used to support the current level of ongoing services provided by the City. Any exemption or waiver of these fees may create a subsidy and a negative impact to the budget.

The City has salary commitments to the Police Officer's Association in place that will require a substantial portion of known growth in anticipated revenue. In addition, several future fiscal obligations that the City must plan to address include upcoming negotiations with Miscellaneous employees and firefighters, GASB 45 retiree health care liabilities and possible seismic improvements to City Hall. Therefore, any growth in fee-based revenue will be needed to continue to fund the growing cost of existing related services.

Therefore, with continued dedication of current revenue sources to current services, it is not possible to commit to subsidizing property owners' compliance with the proposed Fire Code amendments unless other decisions are made to maintain the structural balance of the General Fund.

Community Development

The Community Development Department has considered the issues related to the proposed fire suppression and alert requirements but does not anticipate the use of Community Development program funds for these purposes.

Water Department

The Water Department is currently investigating the possibility of the reduction of fees for installing fire protection systems. However, the reduction of fees may need to be passed on to other users in order to cover operating cost.

Insurance Industry

No identified financial assistance was discovered. Any financial assistance to owners or developers is usually reflected in the reduction of property insurance rates.

Fire Safety Organizations

A number of private fire protection organizations were contacted including the National Fire Protection Association, Home Fire Sprinkler Coalition and the National Association of Fire Sprinklers; none of the organizations provide financial assistance.

Community Outreach

In an effort to educate the public on the proposed recommendations, City staff has attempted to meet with a variety of civic groups to provide education and information on the proposed fire sprinkler and fire alerting recommendations.

A number of outreach meetings were held at various locations throughout the City for stakeholders to communicate the proposed fire safety recommendations.

The meetings provided valuable feedback from the affected parties including the Apartment Association and the Downtown Long Beach Association.

A number of concerns were raised regarding adopting the regulations such as:

- Cost of the systems for existing buildings
- Possible asbestos removal when present
- Possible lead paint removal when present
- Tenant relocation due to installation logistics

The majority of the concerns were related to the cost of fire protection systems and the requirements to retrofit fire sprinklers in *existing* buildings.

Cost Estimate Model

The cost associated with the installation of fire sprinklers in existing buildings will vary greatly. For example, an apartment building has an estimated cost of $4 – $5 per square foot. The cost estimates provided below have been chosen as a representation of buildings within the City:

10-unit residential occupancy = $50,000

25-unit residential occupancy = $100,000

50-unit residential occupancy = $195,000

High-rise residential (10 story)= $600,000

Indirect costs related to fire protection systems may include maintenance, testing and certification as well as inspections fees. The cost for such services will vary, dependent upon the type and size of the building.

Other City Assistance

In lieu of financial incentives, assistance can be provided by way of other services that can assist applicants with the installation of fire protection systems. Examples of such services are:

- Expedited Plan Review Service
  Fire sprinkler and fire alarm system plans can be expedited for systems that are required for existing occupancies due to the adopted retrofit ordinance.

- Fire Department Liaison
  Staff can be made available to assist with fire code issues and assist in the code review process thereby expediting the approval process.

Public Education

A number of community groups requested increased public education for residential occupancies. City staff agrees on the importance of public education and fire safety and the impact that fire safety education can provide.

It is proposed that additional public education in fire safety include:

- Partnership with the owners/organizations to assist in the distribution of fire and life safety educational materials.

- Increase the number of Public Service Announcements for fire safety in residential occupancies.

It is anticipated that in concert with fire protection systems, public education in fire safety will greatly assist in the reduction of fire related incidents.

Fire Alarm Recommendation Adjustment

During the presentation to the Public Safety Committee on January 30, 2007, it was requested that the upgrading of fire alerting systems be amended to include convalescent type facilities.

The original recommendation has been amended to include the upgrading of an existing fire alerting systems for convalescent occupancies when such systems are no longer operational.

Conclusion

It is recommended that the cost for the installation of fire sprinklers or fire alerting system be the responsibility of the owner or developer. The cost associated with the installation of fire protection systems has historically not been subsidized by cities or jurisdictions.

The installation of fire protection systems has proven to save lives, which should be the **primary** consideration when determining financial cost. Indirect cost saving in reduced insurance rates and the reduction of property loss in case of a fire are an added benefit of fire protection systems.

PowerPoint Presentation

Long Beach Fire Department
and
Department of Planning and Building

FIRE SPRINKLER AND FIRE ALERTING REPORT UPDATE ON FUNDING AND OUTREACH

Hank Teran, Fire Marshal
Larry Brugger, Building Official

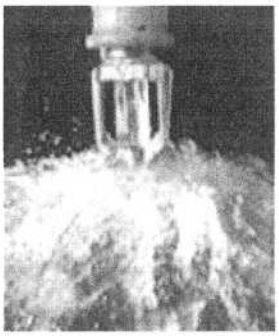
April 3, 2007

1

PRIOR REPORT

Report to Public Safety Committee on January 30, 2007

- The history of fire and building codes in our City
- Facts and performance of fire sprinklers
- Fire sprinkler video demonstration
- Recommendations



2

RECOMMENDATIONS

- New Construction – Fire Sprinklers
- Existing Construction – Fire Sprinklers
- Existing Construction – Fire Alarms

3

RECOMMENDATIONS
New Construction – Fire Sprinklers

1. Require all ***new multi-family (3 or more units) residential, hotels, motels and similar buildings*** to be protected by fire sprinkler systems.

2. Require 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.

3. Require 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.

4

RECOMMENDATIONS
Existing Construction - Fire Sprinklers

4. 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 three years.

5. 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.

6. 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.***

5

RECOMMENDATIONS
Existing Construction - Fire Alarms

7. Require 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.

8. Require 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.

6

FIRE RESPONSES
Since January 30, 2007

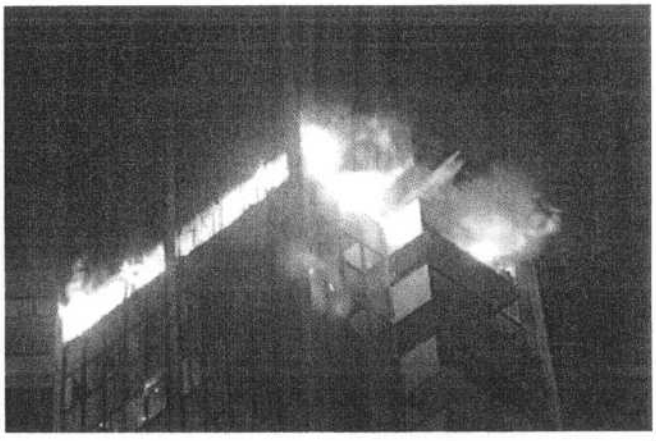
- Total Fire Responses – 77
- 53% were in multi-family residential occupancies

Incidents

- February 13, 2007 – Fire in a non-fire sprinklered apartment with one smoke inhalation victim.
- February 24, 2007 – Fire on the 9th floor of a non-fire sprinklered high-rise with one smoke inhalation victim.
- March 25, 2007 – Fire in a non-fire sprinklered apartment with one smoke inhalation victim.
- March 28, 2007 – Fire in a non-fire sprinklered high-rise with one fire fatality.

7

GALAXY TOWERS
2999 E. Ocean Boulevard



8

REPORT UPDATE

- Funding Opportunities
- Community Outreach

9

FUNDING OPPORTUNITIES

City Departments

- Financial Management
- Community Development
- Water

Outside Agencies

- Insurance Industry
- Fire Safety Organizations

10

JURISDICTIONAL SURVEY

- 41 jurisdictions surveyed
- 90% do not offer any financial incentives
- 10% of those surveyed, offer reduction in water meter, plan review and permit fees.

11

COMMUNITY OUTREACH

- Apartment Association
- Downtown Long Beach Associates
- Other community organizations

12

COST ESTIMATE MODEL

Examples of cost estimates for installing fire sprinklers in residential occupancies include:

- 10 Unit Apartment = $50,000
- 25 Unit Apartment = $100,000
- 50 Unit Apartment = $195,000
- 10 Story Apartment = $600,000

* The examples provided above are estimates.

13

CITY ASSISTANCE

- Expedited Reviews
- Fire Department Liaison

14

PUBLIC EDUCATION

- Partnerships
- Public Safety Announcements

15

Long Beach Fire Department
and
Department of Planning and Building

FIRE SPRINKLER AND FIRE ALERTING REPORT UPDATE ON FUNDING AND OUTREACH

Hank Teran, Fire Marshal
Larry Brugger, Building Official

April 3, 2007

16

CITY OF LONG BEACH
PUBLIC SAFETY COMMITTEE AGENDA

TUESDAY, MAY 22, 2007
COUNCIL CHAMBER
333 W. OCEAN BOULEVARD, 1:00 PM

Val Lerch, Chair
Gerrie Schipske, Vice Chair
Rae Gabelich, Member

CALL TO ORDER

ROLL CALL

1. 06-1362 Recommendation to receive presentations regarding Fire Suppression and Fire Alert Requirements in the City of Long Beach.

see media

Suggested Action: Approve recommendation.

06-1362 Recommendation to receive presentations regarding Fire Suppression and Fire Alert Requirements in the City of Long Beach.

Suggested Action: Approve recommendation.

06-1362 Recommendation to receive presentations regarding Fire Suppression and Fire Alert Requirements in the City of Long Beach.

Suggested Action: Approve recommendation.

PUBLIC PARTICIPATION: Members of the public are invited to address the Committee.

ADJOURNMENT

I, Gloria Harper, City Clerk Specialist, certify that the agenda was posted not less than 72 hours prior to the meeting _____ Date: _____

NOTE: An agenda may be obtained from the City Clerk Department prior to the meeting or can be mailed if the City Clerk is provided self-addressed, stamped envelopes mailed to: City Clerk Dept., City Hall Plaza Level, 333 W. Ocean Blvd., Long Beach CA 90802. You may view the agenda on the Internet at www.longbeach.gov. E-Mail correspondence can be directed to cityclerk@longbeach.gov. Agenda items may be reviewed in the City Clerk Department or the Plaza Level Information Desk at the Main Library. Communicate through the Telephone Device for the Deaf (TDD) at (562) 570-6626. If a special accommodation is desired pursuant to the Americans with Disabilities Act, or if you need the agenda provided in an alternate format, please phone the City Clerk Department at (562) 570-6101 by 12 noon Monday, the day prior to the meeting. Inquire at the City Council Chamber Audio-Visual Room for an assistive listening device.

AGENDA

PUBLIC SAFETY COMMITTEE
MAY 22, 2007

PRESENTATIONS ON FIRE SUPPRESSION AND FIRE ALERT RECOMMENDATIONS

I. INTRODUCTION

Fire Marshal Hank Teran will provide a brief overview of the status of the Fire Sprinkler and Fire Alerting Recommendations.

II. INDUSTRY PRESENTATIONS

Presentations will be made by the following professional organizations addressing topics regarding fire protection systems as requested by the Public Safety Committee:

a. **Fire Protection Systems**
Mr. Robert Rowe of the Fire Sprinkler Advisory Board will provide information on the installation and operation of fire sprinkler systems.

b. **New Technologies**
Mr. Mike Madden, Fire Protection Engineer for the consulting firm Hughes and Associates, will provide information on new technologies regarding fire protection systems.

c. **Fire Insurance Premiums**
The Insurance Services Office (ISO) will discuss the impact of fire protection systems and the impact on fire loss data utilized by ISO.

III. CONCLUSION

Fire Marshal Hank Teran and Building Official Larry Brugger will conclude the presentation and be available for questions.