



# San Francisco Fire Safety Task Force

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## **Section I: Immediate Measures**

### **CCSF Findings:**

1. The San Francisco Administrative, Fire and Housing Codes do not require building owners of multi-residential (apartment buildings) to post or disclose information regarding the location and maintenance of fire safety devices and practices to building residents, or to conduct annual fire evacuation drills.
2. CCSF currently has no nexus between the issuance of a new business registration with the Tax Collector pursuant to the jurisdiction's Business & Tax Regulations Code for the rental operation of a multi-family building (over four units) and the providing of an affidavit that fire detection and suppression systems within the building have been serviced and are properly maintained annually.
3. The current Fire Code requires annual Underwriters Laboratories LLC (UL) certification for Fire Alarm Systems in all newly constructed multi-family (apartment buildings), and in existing buildings of sixteen (16) units or more (SFFC 907.9.6 & 4603.6.10).
4. The Fire Code requires the service organization testing and maintaining the fire alarm system to submit an annual report to the Bureau of Fire Prevention based upon the standards delineated within the National Fire Protection Association (NFPA) Fire Alarm & Signaling Code (2013 edition). There is no current requirement that this information be made transparent to the public or building residents.
5. Fires spread quickly in older multi-unit buildings that typically have open attics with no fire blocks.

### **CCSF Recommendations:**

1. The San Francisco Fire & Housing Codes could be amended to require multi-family building owners post and disclose building specific fire safety information to residents at the commencement of occupancy and when such amendments become effective.
2. Further research should be performed to determine if the Business and Taxation Codes would permit the Business Registration process to be leveraged to ensure residential rental businesses properly maintain fire safety standards by requiring the property owner submit an affidavit that requisite fire safety features are properly maintained as a condition of being issued the business license.

## **Section I: Immediate Measures (Continued)**

### **CCSF Recommendations:**

3. The San Francisco Fire & Housing Codes should be amended to require multi-family building owners of three or more units have their service organization testing and maintaining the fire alarm system submit an annual report to the Bureau of Fire Prevention based upon the standards delineated within the National Fire Protection Association (NFPA) Fire Alarm & Signaling Code (2013 edition) to be posted on a webpage maintained and supported by CCSF for improved transparency.
4. At the time a business license is issued to the building owner for rental of multi-unit (apartment buildings) the link to the DPW web page should be provided showing the street location of scheduled infrastructure improvements in the public right-of-way. The information should inform a property owner who wishes to voluntarily upgrade their fire sprinkler system of potential cost savings associated with installing these upgrades at the same time of the infrastructure improvements in the public right-of-way.
5. The San Francisco Fire, Housing, or Building Codes should be amended to require multi-unit building owners to install fire blocks, draft stops, or fire safing insulation in open accessible attics of twenty-four (24) inches in height or greater, when performing building alterations through a filed building permit of \$20,000.00 or more in estimated job cost.

## **Section II: Interagency Fire Safety Education & Code Enforcement**

### **CCSF Findings:**

1. The San Francisco Fire Department and Department of Building Inspection coordinate closely, on a daily basis, in the areas of permit processing and plan check for new construction.
2. The two departments coordinate on post-fire response and DBI issues  
Notices of Violation for fire-damaged properties
3. The departments participate in the City Attorney-led Code Enforcement Task Force.

## **Section II: Interagency Fire Safety Education & Code Enforcement (Continued)**

4. The two departments conduct fire safety education to SRO residential hotel residents through the SRO Collaboratives in the Tenderloin, SOMA, Mission and Chinatown areas. DBI funds and coordinates the SRO Collaboratives, and the Fire Dept. helps conduct on-site education workshops for fire safety.
5. DBI has on-line complaint tracking for Housing Code violation cases. SFFD requires appointments to provide case information on properties.
6. DBI HIS issues Notices of Violation for fire safety violation of the Housing Code. SFFD issues Notices of Correction, and Notices of Violation depending on the severity of the violation, i.e., fire alarm, or sprinkler systems out of service and exiting issues.
7. DBI HIS conducts weekly Director's Hearings for outstanding violations, where liens and penalties are applied for non-compliance.
8. SFFD refers engine company inspection results to the Bureau of Fire Prevention.
9. DBI HIS refers persistently negligent code violators to the City Attorney's Office for civil penalties.

### **Tenant Perspectives:**

1. Increase transparency for access to SFFD code enforcement actions and documents.
2. Provide an on-line system for tracking SFFD code enforcement actions/ notices of violation, and the ability to determine district Fire Inspectors assigned to geographic areas for inquiry and follow-up.
3. SFFD should implement a transparent administrative hearing process and the imposition of administrative penalties for property owners of multi-unit buildings who fail to comply with fire code requirements.
4. Section 109 of the San Francisco Fire Code should be amended to require that SFFD "shall" rather than "may" prepare notices of violation for fire safety hazards.

5. Expand the educational fire safety workshops traditionally provided to SROs to one and two family dwellings that are being operated similar to an SRO.

#### **Landlord/Business Community Perspectives:**

1. Create improved information for property owners of multi-unit buildings to understand which Department (SFFD or DBI) is the lead for specific code enforcement activities.

### **Section III: CCS Post Fire Investigation & Interagency Information Sharing**

#### **CCSF Findings:**

1. The San Francisco Fire Department conducts post fire investigations of multi-unit (apartment buildings) and determines a probable cause of a fire if requisite evidence is available. This information is transmitted to DBI on a monthly basis.
2. SFFD and DBI frequently collaborate on fire safety issues but do not currently have a formal referral system for code violation issues.
3. Multi-unit buildings with fires that cause \$20,000.00 or more in damage typically sustain structural damage.
4. CCSF currently does not have a formal process to document how required fire safety in multi-unit buildings performed in the event of a fire (if the evidence has not destroyed) and link that data with building features such as number of units, floors of occupancy, or construction type.

#### **Tenant Perspectives:**

1. SFFD post fire reporting should provide transparency and timely notification to tenants regarding the condition of their unit in a fire damaged building regarding habitability and access to possessions.

#### **CCSF Recommendations:**

1. The San Francisco Fire Department and Department of Building Inspection should collaborate on the development of a data base accessible to the public that will document how fire safety systems performed in multi-unit buildings with fires having \$20,000.00 damage or greater when the evidence is available.

2. The San Francisco Fire Department and Department of Building Inspection should develop a referral form to be utilized when transmitting interdepartmental information related to fire safety code enforcement activities from one department to the other.

## **Section IV: Fire Alarm Systems in Existing Multi-Residential Buildings**

### **CCSF Findings:**

1. Older multi-unit buildings which comprise the majority of the apartment building inventory, have original alarm systems installed in the 1970's and 1980's. These have been permitted to have replacement in kind repairs with no upgrades. Such systems typically lack adequate audible notification, and would fail the 75 dB "pillow test" NFPA standard for new installations.
2. Upgrades to the older fire alarm systems where compatible, would require requisite electrical and building permits as well as booster panels to supply the additional electrical power necessary to support additional appliances i.e. louder horns and strobes (replacing the bell alarms). If the additional horns trigger the need for a power booster, the cost will increase by approximately \$2000 for the installation.
3. Such upgrades could require expanding the notification appliance circuit of the system and installation of additional horns into the individual dwelling units so that building residents can more effectively hear the audible early detection (fire alarm) systems. The cost of installing additional horns is approximately \$500 per horn including conduit and wiring. This cost increases if the conduit is run inside the wall.
4. Replacing the audio alarms may require installation of a new fire alarm control panel to achieve compatibility between devices. Where feasible existing wiring may be used to appliances being replaced but additional horns, etc. will require additional wiring and appropriate electrical service. The cost of installing and programming a new fire alarm control panel varies from \$5000 (for a conventional panel) to \$15,000 for an addressable panel with 512 points.
5. Landlords and property managers are often confused about the time frames for the testing of life safety equipment (fire alarm system, emergency lighting and exit signs, fire sprinklers, fire escapes, fire extinguishers)

## **Section IV: Fire Alarm Systems in Existing Multi-Residential Buildings (Continued)**

6. A fire alarm system typically requires only one 120 VAC dedicated circuit for the types of buildings under consideration (which the existing systems should already have).
7. The majority of fire alarms systems are not monitored by a third party, and would necessitate fire alarm control panel upgrade/replacement. Off-site UL approved monitoring of fire alarm systems in residential buildings is only required when there are 20 or more fire sprinkler heads present. Some systems could be upgraded by adding a dialer. A dialer could be installed for approximately \$800 and the monthly cost of monitoring is about \$90.
8. The cost of installing a fire alarm system for new construction is estimated at \$5 per sq. ft. for a conventional system and \$6 per sq. ft. for an addressable system. While upgrading a system in older buildings presents unique challenges there can be cost savings by using existing wiring (existing wire mold may be used). A “like for like” replacement of a fire alarm system in typical three or four story apartment buildings can cost approximately \$8,000 to \$20,000.

### **Tenant Perspectives:**

1. Fire alarm upgrades should take into consideration residents with disabilities who may not be able to hear audible alarms. Alarm system improvements should include strobe devices.
2. Tenants should be informed annually by property owners regarding the condition and workability of the existing fire alarm system, and current evacuation plan.

### **Landlord/Business Community Perspectives:**

1. Some battery smoke detectors are more reliable than others. Pursuant to some property owner testimony the ionization sensor types are prone to more false alarms.
2. Landlords and property managers are often confused about the time frames for the testing of life safety equipment (fire alarm system, emergency lighting and exit signs, fire sprinklers, fire escapes, fire extinguishers).

## **Section IV: Fire Alarm Systems in Existing Multi-Residential Buildings (Continued)**

3. Further research should be performed to identify and determine the feasibility of employing the latest technology, such as wireless systems currently utilized in other building types.

### **CCSF Recommendations:**

1. The San Francisco Fire & Housing Codes should be amended to require upgrades to the current fire alarm systems within two years to adhere to the 75 dB “pillow test” NFPA standard.
2. The San Francisco Fire & Housing Codes should be amended to include a chart which clearly delineates testing/inspection timeframes for all pertinent fires safety equipment in multi-unit buildings. Both departments would include this information in their fire safety educational and outreach efforts.
3. CCSF Departments should reach out to fire alarm system manufacturers to encourage availability of replacement equipment for fire alarm systems within reasonable time frames.

## **Section V: Fire Sprinkler/Suppression Systems in Existing Multi-Residential Buildings**

### **CCSF Findings:**

1. Older multi-unit buildings which comprise the majority of the apartment building inventory are only partially sprinklered in the garbage rooms and trash chutes. These systems are effective in situations where there is a fire in these areas only. These older systems have no backflow prevention to protect the potable water.
2. Adding sprinkler heads to an existing system could require an upgrade of the fire alarm system that is tied into it as any fire sprinkler system which has more than 20 sprinkler heads. Such systems must be remotely monitored by a third party.



## **Section V: Fire Sprinkler/Suppression Systems in Existing Multi-Residential Buildings (Continued)**

3. The more sprinkler heads added to the system the greater the likelihood that additional water service will be required, or that a larger pipe will be required in the event of such need. The “flat rate” cost of bringing the additional service with no complications would be approximately \$28,000. This cost could increase substantially depending on the complexity of connecting to the main in the street. These facts include the distance to the main water supply line of sufficient size, and how busy the street is regarding the connection installation. A small percentage of multi-unit building will have to install a pump to ensure proper water pressure for the fire sprinkler heads at upper floors. In such cases a room would be needed to house the pump.
4. Work of the scope required to add sprinkler heads in older occupied buildings would raise impacts associated with dust, asbestos, lead, noise, and egress obstructions due to equipment and staging area needs. Some tenants might require relocation during such work. Also, retroactive installations of fire sprinkler supply lines could cause headroom requirements to become an issue.
5. Additional SFFD and DBI staffing would be required to perform plan checking, and site inspections for retroactive sprinkler installations in multi-unit buildings.
6. If new fire sprinkler systems are installed or existing systems are expanded, backflow prevention would need to be installed. In such cases issues of cost and finding space for the devices would arise. Backflow systems are required by DPH to be tested on an annual basis at the building owner’s expense. The water that flows into fire sprinkler systems is from the public drinking water supply. Backflow prevention is necessary to keep the water that flows into a fire sprinkler system from flowing back into the drinking supply after potentially sitting stagnant in the system a long time and then contaminating the drinking supply.
7. If a new fire sprinkler system is installed (or substantially upgraded from the minimal systems that currently exist) the cost can vary substantially as there is no “one size fits all” approach to installing such systems in older multi-unit buildings. The cost of installing a fire sprinkler system is best approximated by cost per sprinkler head. The projected cost would be \$500.00 to \$600.00 per sprinkler head for the typical three or four floor apartment building with exposed plumbing. This would include PUC hook up, backflow prevention and other considerations.
8. The factors which would most affect the cost of a fire sprinkler installation include:

## **Section V: Fire Sprinkler/Suppression Systems in Existing Multi-Residential Buildings (Continued)**

- A.** The PUC fire service connection has a “flat rate” for a straight-forward connection of \$28,000 which can increase to \$150,000 in extreme cases where the water service needed is (1) located far away, (2) the street in question is busy, (3) an extensive street restoration is required, (4) the water main in question is not of sufficient size, or (5) other complicating factors.
- B.** In some cases finding space for the backflow prevention device (approximately the size of a large desk) may increase cost for interior modifications in order to ensure the distance does not exceed 25 feet from the water main. The cost of the device itself is approximately \$1500.
- C.** If the new pipe is run inside the walls and ceilings the cost will be at least double the estimated cost per sprinkler head.
- D.** In rare cases (about 1% of installations) a fire pump would be needed to provide the correct water pressure in the system. A 500 gallon per minute pump would cost approximately \$75,000 to install. Pumps would typically be required in taller buildings that are located at higher elevations.

### **Tenant Perspectives:**

- 1.** Tenants are concerned with potential Rent Ordinance pass-throughs (similar to those for capital improvements) related to cost calculations, and relocation compensation.

### **Landlord/Business Community Perspectives:**

- 1.** Property owners are concerned with the expense of retroactively installing fire sprinkler systems to existing buildings and the cost to relocate tenants during such installation.

### **CCSF Recommendations:**

- 1.** The advisability of requiring the installation of a retroactive sprinkler system to existing multi-unit buildings should be predicated upon the factors delineated above. Upgrading fire alarm systems should be considered a consensus approach while post fire investigative reporting is reformatted to provide more specific information regarding the causes of fires and how fire safety systems and construction types perform when such evidence is available.