



# ANNUAL REPORT REGARDING FINDINGS IN CONDUCTING LIFE SAFETY INSPECTIONS

FY 2015



TEXAS DEPARTMENT OF INSURANCE

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# Highlights

- Through the addition of inspectors and improved efficiency, the State Fire Marshal's Office increased the number of buildings inspected over the previous year by 11 percent.
- This past session, the Legislature increased the inspection requirement and reporting to cover all state agency owned or leased buildings. Previously, inspections were required only for facilities controlled and leased by Texas Facilities Commission (TFC).
- Through collaborative efforts with TFC and state agencies, and with additional funding for facilities from the Texas Legislature, important safety improvements are being made at several buildings. Those include:
  - A sprinkler system has been installed in the Department of State Health Services' Tower Building. It had been the only high-rise building in the group of TFC-managed facilities that lacked a fire sprinkler system, and this improvement dropped it from the list of state buildings with the highest fire and safety risk.
  - Repairs are being made to the fire alarm system in the William P. Hobby Building in Austin, currently listed among those with highest risk.
  - In addition to the Hobby Building, the increase in state funding for building maintenance will be used to correct fire code compliance at 14 other state buildings in fiscal years 2016-17.
- While additional funds were appropriated for safety mitigation and improvements are being made, fire and safety risks continue to be identified at state properties. Significant challenges remain, including:
  - Additional buildings continue to be identified for inspection. SFMO is working with other state entities, particularly in the university systems, to establish a reporting system that notifies SFMO about new construction.
  - Inspections continue to reveal persistent violations of safe practices in the use of

extension cords and power strips, and have also identified problems with fire wall penetrations.

- More than half of the 400 detention units under the Texas Department of Criminal Justice don't have working fire alarms.
- Texas Department of Insurance (TDI) funded two additional inspectors in fiscal year (FY) 2014 and the Legislature approved one additional inspector in FY 2016. This additional staffing is allowing the inspection cycle to be reduced to 6.5 years for the lowest hazard occupancies. Previously, the inspection cycle was 14 years. SFMO continues to work toward the goal of a five-year inspection cycle.
- Modern, data-driven fire inspection software deployed to already existing tablets in the field will help use inspectors' time more efficiently. This can be accomplished within the existing SFMO budget, and SFMO is working with TDI to purchase this software.

# Overview

Texas Government Code, Section 417.0081(c), requires the State Fire Marshal's Office to submit an annual report to the Governor, Lieutenant Governor, Speaker of the House of Representatives, and appropriate standing committees of the legislature, about the State Fire Marshal's inspection findings. This report responds to that requirement.

SFMO has been inspecting state-owned properties for decades and inspecting buildings leased by the state since 2012 under this authority. The greater part of this report will address the fire safety status of state-owned and state-leased buildings under the charge of TFC. This report also includes information on the inspection of state-owned buildings that are not under the control of TFC. This authority was clarified in the 84th Legislature by SB 1105. SFMO's goal is to ensure that all state-owned and state-leased buildings provide a safe environment for state employees and the citizens they serve.

FY 2015 marks the third full year that SFMO has conducted legislatively mandated inspections in buildings leased by the state. These inspections were prioritized and conducted on a risk analysis basis developed in consultation with TFC and the State Office of Risk Management (SORM).

During this same reporting period, 11 percent of SFMO inspections were conducted for a fee, as authorized by statute, for certain non-state-owned facilities.

SFMO began using the 2012 edition of National Fire Protection Association (NFPA) Life Safety Code (NFPA 101) in 2012. The 2012 edition of NFPA 1, Fire Code was adopted on June 15, 2015.

The State Fire Marshal uses other NFPA codes and standards for guidance in assessing and directing remediation of fire and life safety hazards. These codes are updated on a regular cycle, and SFMO expects to adopt the 2015 editions of these standards in 2016.

The SFMO focuses on compliance and education in resolving violations of life safety principles. In some cases tenants are not aware they are committing a violation.

In 2015, SFMO identified an emerging problem in buildings: repairs have created penetrations through firewalls without properly resealing the firewall. These open penetrations through the firewalls can cause unimpeded fire spread, which defeats the purpose of the wall and could render the sprinkler system less effective.

### **Most Common Fire Safety Issues in State Buildings**

- Lack of annual inspections of fire alarm and fire sprinkler systems, and systems are inoperable or no longer meet current standards.
- Key card operated locks that override panic hardware intended to allow for emergency exit.
- Inoperative exit signs and emergency lighting units, or no exit signs and emergency lighting.
- The use of swipe cards to exit a building with no motion sensor or button to allow for emergency exit.
- The use of extension cords and the improper use of power strips.
- Stairwell doors missing latching hardware or equipped with panic device hardware when fire exit hardware is required.
- Fire doors not properly closing and latching.
- Required labeling by a nationally recognized testing laboratory either painted over or missing on fire doors.
- Penetrations of firewalls without sealing the penetrations.
- The lack of ground fault circuit interrupters (GFCI) on vending machines, water fountains, and within 6 feet of sinks within countertops.

To achieve compliance with fire and life safety standards in buildings owned and managed by the Texas Facilities Commission (TFC), SFMO works with TFC and the State Office of Risk Management (SORM) to educate tenants that are out of compliance. SFMO reports also include violations of TFC's tenant manual as additional notes to the inspections. Reporting TFC lease violations is not mandated by statute, but this is done by agreement with TFC and SORM to maximize the use of state inspection resources.

SFMO works with TFC to prioritize inspections of facilities and identify deficiencies that pose the greatest risk. This is done to ensure that available funds are spent as effectively as

possible to identify and resolve life safety risks. Funding for major repairs has been a longstanding challenge. The 84<sup>th</sup> Legislature recognized the importance of this issue by appropriating additional money for repairs and maintenance at state facilities. This funding will help address critical life and safety code violations at 15 state facilities, including three that are listed among SFMO's highest risk buildings.

SFMO's efforts in the inspection of spaces leased by TFC have continued to be successful in identifying and resolving life safety risks. This success is amplified by early coordination with local authorities, as well as cooperation from TFC, and has led to an effective process for inspecting leased buildings and enforcing the adopted NFPA codes. SFMO continues to collect the data and information it needs to develop a comprehensive risk-ranking program similar to the one used to schedule inspections for TFC-owned facilities. SFMO collects most of this data during the inspection process and uses it to more effectively prioritize scheduling of subsequent inspections.

It is important to note the difference in obtaining compliance with the adopted NFPA codes in state-owned buildings versus leased buildings. SFMO has clearly defined enforcement authority in state law for state-owned buildings. Privately owned buildings, leased by the state, are subject to local building and fire ordinances and contractual obligations. SFMO continues to work with TFC, SORM, and occupying state agencies to make the most effective use of the resources available and ensure that state buildings are a safe environment for state employees and the public. Many building owners have made necessary changes once they are made aware of the issues.

Historically, SFMO has inspected about 75 percent of the state building inventory under the control of TFC or leased for the use of a state agency by TFC. In the FY 2012 report, SFMO stated that it planned to begin regular inspections of all such state-owned or leased buildings. In FY 2014, SFMO inspected 35 percent more buildings than the previous year. During the 2015 fiscal year, SFMO inspected 11 percent more buildings over FY 2014. SFMO is working toward a goal of inspecting all facilities on a cycle of no less than once every five years.

SFMO conducted 2,049 inspections encompassing 8,210 individual structures in FY 2015. This compares with 1,984 inspections encompassing 7,370 individual structures inspected in

FY 2014. SFMO identified 7,287 hazards in FY 2015, as compared with 7,198 hazards in FY 2014.

SFMO has identified at least 2,434 specific locations owned or occupied by state agencies. However, a location may have more than one structure to be inspected. There may be 16,000-19,000 individual state-owned or state-occupied structures. Because there is no comprehensive database of state-owned properties, SFMO continues to collect information during each inspection to update our list of individual buildings. House Bill 3750, passed by the 84th Legislature, directed the Legislative Budget Board, in conjunction with SORM, to develop a list of all real estate owned by the State of Texas and report the findings. This list should help clarify the number of buildings that need to be inspected.

Information provided for current inspections is often based on anecdotal findings because SFMO's current inspection database does not permit queries for detailed information on inspection findings and enforcement rates. SFMO has identified funding within its current budget that can be used for software that will allow tracking detailed inspection finding information and compliance rates. An updated inspections database will help improve SFMO's risk analysis and ranking systems.

Information on the number and types of state-owned and state-leased buildings has been compiled from multiple sources and has varied in detail. One of the continuing issues with scheduling inspections of TFC-leased spaces on a risk-based priority is that the information available on these facilities is sparse and often outdated. SFMO therefore can only collect detailed information useful for a risk analysis after inspecting the site.

For a brief explanation of the risk assessment algorithm, see Appendix A.



# TFC-Owned Buildings

Working through a memorandum of understanding (MOU) with TFC and SORM, SFMO regularly inspects state-owned buildings and monitors fire safety improvements. Each agency assumes certain responsibilities through the MOU, and the agencies meet quarterly to ensure ongoing cooperation and progress.

In accordance with Texas Government Code, Section 417.0081(b), SFMO schedules periodic inspections of TFC buildings using a risk based approach. SFMO uses a fire risk ranking method to assign buildings a “relative risk” value that is used to determine the frequency of inspection for individual buildings.

SFMO coordinates with TFC building management when scheduling inspections, to ensure access to all building areas and necessary equipment. After the inspection is completed, SFMO provides inspection reports to TFC and SORM. SFMO may also directly provide a copy to the heads of agencies occupying the buildings. It is TFC’s responsibility to generate work orders to correct any findings – coordinating with occupants as necessary – or to request funding for repairs that may not be possible within its current budget.

## Findings

The following TFC-owned buildings have been identified as having the highest fire and safety risk based on SFMO’s risk ranking system:

- Stephen F. Austin Building
- William P. Hobby Building
- Price Daniel, Sr., Building
- Lyndon B. Johnson Building
- DSHS Dr. Bob Glaze
- William B. Travis Building
- John H. Winters Building
- William P. Clements Building
- Sam Houston Building
- Tom C. Clark Building

These buildings have several common features and deficiencies that contribute to their elevated level of risk. All of these buildings, with the exception of the John H. Winters Building, are high-rise structures that pose a number of unique challenges for life safety and fire protection. These buildings are also large buildings with high occupant loads. SFMO inspections have found numerous code violations in these buildings, including compromised fire/smoke barriers; improper locking systems that can hinder egress; and deficiencies in fire alarms, fire sprinklers, and fire suppression systems.

TFC received additional funding for maintenance at all 10 of the highest risk buildings, and corrections specifically to fire code violations are planned for the William P. Hobby, Lyndon B. Johnson, and John H. Winters buildings this biennium.

The top three buildings on this list have issues that result in significantly higher levels of risk than found in other state buildings. For instance, the Stephen F. Austin Building has critical issues involving its FM-200 system (waterless fire suppression system that uses inert gasses to suppress the fire), rooms without sprinkler coverage, mechanical rooms that lack self-closing devices on every floor, and utility shaft breaches throughout the building with large holes in the mechanical room walls on every floor. Penetrations within the firewalls will cause a fire to travel unimpeded through firewalls and fire-rated floors, making fire protection features less effective. As reported previously, the Department of State Health Services' Tower Building was the only high-rise building in the group of TFC-managed facilities that lacked an installed fire sprinkler system. TFC recently completed the installation of the fire sprinkler system, which caused this building to drop off of the list of highest-risk buildings.

Complete fire sprinkler systems and fire alarm coverage are essential elements of fire protection and occupant safety. However, their performance is degraded and safety is diminished when these systems are tagged with deficiencies, and further diminished when there are numerous obstructions to egress, non-functioning fire doors or non-rated doors where fire doors are required, and firewalls with a myriad of unprotected penetrations.

Consistent, on-going building maintenance, and assurance that contractors finish jobs correctly and to the required standards, enhance a building's overall safety. Major building services violations and egress problems can cause a building's life safety properties to deteriorate, regardless of the presence of sprinkler systems or fire alarms.

The most prominent issues related to state employees' actions throughout state-owned buildings include the potentially unsafe use of extension cords, power strips, and food warming and cooking equipment. These are the most common findings. According to statistics from the National Fire Protection Association, electrical distribution and cooking equipment are identified as the sources of nearly a third of all office property fires.

Cooking equipment is a leading cause of fires in the workplace, accounting for 29 percent of fires identified in office buildings. Cooking and food warming equipment should only be present in designated areas. A third of all office fires originating from cooking equipment occurred outside of a kitchen or designated cooking area. Workspaces often contain a large amount of combustibles that create potential for ignition and can contribute to the severity of a fire incident.

The second leading cause of fires in office spaces is electrical distribution equipment. Building electrical systems and equipment are designed for specific maximum loads. When the design loads are exceeded, wiring and other components can overheat and start a fire. The most common finding during SFMO inspections is interconnected power strips and extension cords. Occupants typically do this to increase the number of receptacles available for use and to extend the reach of the power strip. Doing so places a strain on the building's electrical system as well as on the power strips themselves. There have been a number of recent events in state buildings where an overloaded power strip has failed.

Extension cords are also commonly used to provide power to appliances in areas of an office where there is no nearby receptacle. Extension cords are not designed to be under permanent electrical load and should not be used in the place of permanent wiring. When additional receptacles are consistently needed in an area, building management should be contacted to install the proper fixtures. The use of cooking equipment and other personal electrical appliances that draw large current loads, such as personal refrigerators and space heaters, may also contribute to electrical fires. Office building electrical systems are designed for a specific load that typically consists of computers, printers, and other related office devices. When occupants bring in personal toasters, coffee pots, heaters, and refrigerators, the design loads for the office can be exceeded and cause stress on the building's electrical system over time. This is a significant fire risk that needs improvement. Documented fires of this nature have already occurred at Austin State Hospital, Camp Mabry, Winters

Building, and the Rudder Building.

Inspectors have also found power strips plugged into uninterruptable power supply (UPS) devices. This arrangement is not only improper for the power strip, but may defeat the purpose of the UPS and the surge suppression of the power strip.

Increased numbers of electrical devices in individual work spaces contribute to an overall increase in the ambient temperature, thus taxing air conditioning and heating systems. This creates an increased cost of operations for the buildings and therefore an increased expense to the state.

More significantly, each electrical connection increases resistance and the overall load on the electrical system. Resistance heating is a well-known mechanism by which fires are started, and circuit breakers and other protective devices cannot tell the difference between “good” resistance and “bad” resistance heating.

Obtaining compliance in this area continues to be a challenge because frequent reconfiguration of office spaces and turnover in agency personnel make education efforts more difficult. SFMO, TFC, and SORM have been working together over the past year to develop programs to address these tenant issues. SORM has produced a video on workplace fire safety to help agencies educate their employees. Often, employees are not aware of the hazards associated with misusing electrical facilities in their workspaces. TFC also recently updated its tenant manual to add clarification on the proper use of electrical utilities and the misuse of unauthorized appliances. SFMO has included more detailed information on tenant-related issues in inspection reports so that TFC can directly issue notices to the leadership of tenant agencies, informing them of life safety code violation issues. TFC will copy SFMO and SORM on these notices so that SFMO can follow up directly with agency leadership, with the hope of achieving greater compliance.

Timely correction of code violations in TFC-owned and managed buildings has historically been a challenge. SFMO’s primary mechanism for enforcing the code is to notify TFC and request a response, typically within 14 days.

While SFMO can use the mechanism provided through Government Code §417.008 to

issue an order requiring anything from remediation, up to and including closing a building that presents a dangerous condition, SFMO tries to work with TFC to remediate these issues in a collaborative manner. If a dangerous condition is identified and the affected agency will not make a credible effort to correct the deficiency, the Fire Marshal has the authority to enforce correction of the condition under Texas Government Code, Section 417.008, though this action in state-owned property has not been necessary, to date.

Historically, the primary challenge to getting fire code deficiencies corrected is funding. As noted in the previous section, the 84<sup>th</sup> Legislature has recognized the issue by appropriating additional funding for facility repairs. A good example of this is the William P. Hobby Building in Austin. TFC is working through a list of approximately 100 violations, including issues with fire alarm and fire sprinkler systems that were identified seven years ago or more. At the time of this report's preparation, the Hobby Building is being wired to correct deficiencies in the fire alarm system.

## TFC-Leased Buildings

In the 2012 report, SFMO identified a number of potential challenges involved with the inspection of leased buildings.

The risk-related information currently available on state-leased buildings continues to be limited, making it impractical to schedule inspections on a comprehensive risk-based basis. SFMO continues to schedule initial inspections of the leased inventory with priority given to the spaces with the largest amount of leased square footage and those buildings located near other inspection priorities.

When conducting an inspection of leased property, SFMO inspectors contact the local authorities with jurisdiction. Issues sometimes arise as a result of deviation between codes used by local and state inspectors, and these situations are resolved with close coordination with the local authority. Generally, SFMO's standard of inspection has more stringent requirements than those of locally adopted codes. This is often because local jurisdictions have not yet adopted newer versions of the nationally recognized codes.

While the mandatory inspection of TFC-leased facilities has resulted in significant additional workload, adding more than 10 million square feet of inspections to SFMO's list of regular inspections, SFMO inspectors schedule these new inspection duties around existing responsibilities and other annual or ongoing inspections.

Many buildings leased by TFC for state agencies contain other tenants. SFMO has limited its primary inspections to the space occupied by state agencies and does not inspect areas occupied by other tenants. SFMO also inspects each building's fire protection systems and means of egress features used by state agencies that may be outside of the space that they occupy, such as stairwells, corridors, and exterior exit doors. Section 417 of the Texas Government Code directs SFMO to prioritize inspections of TFC-leased facilities using a risk-based methodology. Fire risk assessments require detailed data and information to be effective. The information available from TFC on the leased building inventory is limited and is not conducive to use in a fire risk ranking system or other risk assessment methodologies. SFMO continues inspecting the entire leased building inventory, collecting detailed information on each building in the process. This information will be incorporated

into a database and fire risk ranking system that will be used for prioritizing future re-inspections of leased facilities. This risk ranking system will be similar to the one used for TFC-owned and managed buildings.

TFC has agreed to advise SFMO when a lease is being renewed, an agency is seeking new quarters, or when new space is needed. This allows SFMO to inspect prospective properties before a lease is signed and will help determine a schedule for re-inspecting the buildings. Additionally, TFC has strong contract language that allows the state to terminate the lease should life safety issues not be addressed by the building owner. SFMO recommends that leases by other state agencies mirror TFC leases regarding termination of the lease.

## **Findings**

The most common findings in leased space mirror those found in state-owned buildings. SFMO inspectors have found that routine maintenance of life safety features and equipment is often lacking. These deficient life safety features and systems include fire alarm systems, fire sprinkler systems, portable fire extinguishers, fire doors and door closers, emergency lighting facilities, and illuminated exit signs. The Life Safety Code requires the periodic inspection, testing, and maintenance of these systems to ensure that they will operate effectively when needed. The improper use of electrical systems by tenants (extension cords, interconnected power strips, etc.) has also been widespread, similar to the challenges faced in TFC-owned and managed facilities.

When noncompliant conditions are found during inspections, TFC provides a written notification to building owners that they may be in violation of the terms of their lease unless the items noted in SFMO's report are addressed. SFMO inspectors also provide a copy of their findings to the local authority.

If an owner does not provide a timely response or does not address the fire and life safety issues, TFC will issue an official notice of default and may terminate the lease if the owner continues to be uncooperative. The majority of owners have addressed SFMO's inspection findings in a timely manner. There have been, however, a few facilities with major life safety issues that have resulted in relocation of state employees to other facilities.

The enforcement of NFPA 1 has been successful in these facilities. The private building

owners have incentives to correct noncompliant findings. If they don't correct problems, they may face fines from local code officials or termination of the lease.



## State-Owned Buildings Not Under the Control of TFC

The 84th Legislature, in Senate Bill 1105, extended SFMO's inspection and reporting authority to all state buildings. Previously, Section 417 of the Texas Government Code limited SFMO's authority to inspect buildings "under the charge and control of the Texas Facilities Commission." Under this expanded authority, SFMO now can inspect buildings housing the following agencies and programs:

- State college and university systems
- Texas Department of Transportation
- Texas Department of Public Safety
- State Preservation Board
- Texas Historical Commission
- Texas Workforce Commission
- Teacher Retirement System
- Employees Retirement System
- Texas Parks and Wildlife Department
- Texas A&M Forest Service
- Texas School for the Blind and Visually Impaired
- Texas School for the Deaf
- Texas Department of Criminal Justice
- Texas Juvenile Justice Department
- Texas military forces
- State supported living centers and hospitals
- Finance Commission of Texas
- Texas Board of Professional Engineers

Buildings under the control of TFC represent only a small portion of state-owned buildings. According to their 2016-17 Legislative Annual Report, TFC maintains 18 million square feet of state-owned properties and 800 leases comprising 10 million square feet of leased properties. Based on data collected from the General Land Office, Department of Public Safety, Department of State Health Services, Department of Criminal Justice, Parks and Wildlife Department, Department of Transportation, and Texas Higher Education Coordinating Board, there may be as many as 19,000 individual, state-owned buildings

totaling in excess of 303 million square feet. During previous inspections of state buildings, it has often been found that a single address listed for an agency might encompass many individual buildings.

Currently, SFMO regularly inspects only a portion of these buildings, including those of state universities, state supported living centers and state hospitals, Texas Department of Criminal Justice (TDCJ), Texas Juvenile Justice Department (TJJD), and certain state preservation board facilities including the Capitol. More than 11,000 buildings are inspected on a recurring basis.

Other agencies' facilities have undergone inspections on a one-time basis, including the Texas Board of Professional Engineers, Department of Public Safety, Texas Historical Commission, Teacher Retirement System, and the Employees Retirement System. Some agencies have had one-time inspections conducted in a limited number of facilities, including the Texas Department of Transportation, Texas Workforce Commission, and the Texas Military Forces. In addition to the one-time and recurring inspections, SFMO estimates that at least 3,600 state-owned buildings have never been inspected. This number does not include buildings that may have been acquired by state universities between inspection visits. Acquisition often occurs without information being passed on to SFMO, and the building or buildings are discovered on a subsequent inspection.

SFMO's ultimate goal is to inspect state-owned facilities on a regular basis, consistent with the risk presented by the building. SFMO uses a risk-based approach for establishing a schedule for inspecting all state-owned facilities. SFMO now has 15 inspectors. Inspection personnel devote about half of their time to inspecting state buildings, and the rest of their time is used for re-inspections and other statutorily required inspections. SFMO estimates it will be able to conduct 4,032 new inspections of state-owned or leased buildings per year with its existing resources.

**SFMO has used the available information to schedule inspections of the following state-owned facilities that represent the greater risks:**

- TDCJ and TJJD facilities will be inspected once every three years. Detention facilities are unique in that the fire and life safety program aims to protect occupants in place,

rather than to remove them from the building. According to this schedule, SFMO would inspect 1,200 buildings at detention facilities each year. SFMO will begin inspecting residential housing units at detention facilities in FY 2016. SFMO is providing TDCJ with information even before the inspections to help TDCJ identify potential issues and ensure that residential units have adequate life safety protection features.

- Patient and resident contact areas of state supported living centers, state hospital facilities, and other Texas Health and Human Services Commission facilities that provide direct care to vulnerable populations will be inspected each year. SFMO estimates that this schedule would require the inspection of 935 buildings each year.
- University dorms will be inspected every two years, at a rate of approximately 507 buildings per year. Dorms often have high occupant loads, where occupants are transient in nature and may not be completely familiar with a building and its emergency features and procedures.
- Residential facilities under the charge of Texas Parks and Wildlife will be inspected once every three years, or approximately 164 buildings per year.
- TFC-leased facilities will be inspected once every seven years, once the entire inventory has undergone initial inspections. Under this schedule, SFMO will inspect approximately 114 buildings per year. The ultimate goal is to inspect facilities being considered to be leased so that fire code violations can be addressed by the landlord prior to occupancy.

After accounting for the critical facilities listed above and other inspection duties, SFMO will be able to conduct annual inspections of approximately 1,112 other state-owned buildings. SFMO estimates these other state buildings would be inspected about every eight years. Once all positions are filled and a new inspection application database is initiated, SFMO estimates that the inspection cycle can be reduced to 5.4 years. Depending on the actual number of buildings, a five-year inspection cycle could be achieved with 16 inspectors and implementation of a new inspection software program. SFMO currently employs 15 inspectors.

## Findings

The level of compliance varies among the buildings regularly inspected by SFMO. State universities generally do an excellent job of maintaining their facilities, from a fire and life safety standpoint. Many universities have embraced the importance of fire protection and have hired their own fire protection professionals or “university fire marshals,” who enforce the Life Safety Code on campus. SFMO continues to work with universities that have lagged in achieving and maintaining a code-compliant campus. The University of Texas at Arlington has a number of outstanding issues that have not been addressed, some dating back to inspections in 2006. SFMO also has noted issues related to routine maintenance of building fire protection features at Sul Ross State University and at the University of Texas at Tyler. A recent re-inspection of Sul Ross State University found that deficiencies identified in FY 2014 inspections, including problems with alarm and sprinkler systems, remain unresolved.

An issue has been found with a recent trend in university housing to construct dormitory rooms that share a common bathroom and provide locking arrangements that would allow an occupant of the bathroom to be locked in the bathroom. The locking arrangement is intended to provide security to the dorm room occupant but creates a risk of entrapment and inability to freely exit the bathroom in an emergency. This locking arrangement has apparently been implemented, sometimes without the consent of the university, with mechanisms such as throw latches and dead-bolts that are only caught by inspections by the universities. SFMO has asked universities to provide additional information on the number of dorm rooms and bathrooms affected.

SFMO advised the university systems that these locking arrangements were not an approved lock. Most universities chose to remove the locks. Some universities chose to completely remove these locks and to not provide an approved lock. Some universities haven't yet addressed the issue, such as Angelo State University.

Some Texas universities have leased existing apartment complexes and then rent the apartments to students to satisfy the growing need for student housing. An example of this arrangement is at Texas Woman's University (TWU) in Denton.

TWU has signed leases with seven apartment complexes to provide student housing.

Students pay rent directly to the university to live in the apartments, but several of the buildings do not meet NFPA 1 or NFPA 101 standards for existing apartments. Violations include:

- Lack required fire alarm systems.
- Only one means of egress off the second floor, dead-end balconies that exceed the allowed 20 feet (one unit measures 56 feet).
- Lack required emergency lighting.

SFMO instructed TWU to meet NFPA 101 requirements by September 2015; however, the university has argued that SFMO does not have jurisdiction because the buildings are not on state property or owned by the university. The passage of Senate Bill 1105 last session may help resolve this issue.

### **State Supported Living Centers and Hospitals**

The majority of state supported living centers and hospitals continue to do an excellent job in maintaining code-compliant campuses. These facilities care for vulnerable individuals who may not always be able to care for themselves in the event of an emergency.

There were 13 fires reported at state hospitals in FY 2015. Of these, seven were caused by patients' use of cigarette lighters. Due to staff, these fires have been small in nature, caught quickly, and extinguished. Others were accidental: a staff vehicle caught fire, power lines caused a grass fire, a microwave, and the possibility that a staff member discarded a cigarette into a burn pit. One way to improve fire safety would be removing cigarette lighters from patients or not allowing smoking on any and all portions of these facilities, or having the lighters and cigarettes held by staff and checked in/out by patients.

### **Texas School for the Deaf**

There were 130 fire safety violations noted in FY 2014, and an FY 2015 follow-up inspection found that 29 had been corrected. The 130 violations included problems with fire alarm and fire protection sprinkler systems, lack of self-closing fire doors, paint spray room lacking a supervised automatic extinguishing system, and numerous other violations.

SFMO has worked closely with the Texas School for the Deaf to develop a plan to resolve

the remaining issues in FY 2016 and to implement fire watches to protect students while the repairs take place.

### **Corrections and Detentions**

SFMO is working with the Texas Department of Criminal Justice facilities to resolve several longstanding issues with noncompliance with the Life Safety Code. More than half of TDCJ facilities (233 out of 400) do not have the required fire alarm systems. Since 2012, SFMO has been working aggressively to address this issue and has made changes to policies and the administration of inspections of detention facilities.

SFMO has offered to help TDCJ identify buildings that need operating fire alarm systems and in removing systems that are not required. With the cooperation of TDCJ Risk Management and Safety personnel, SFMO will be able to identify issues and take corrective action where necessary.

We have also offered to help TDCJ get its personnel qualified to work on the fire alarm systems, which should be a financial benefit to their agency. SFMO will also be educating the TDCJ risk managers so they will be more aware of what violations to be looking for between SFMO inspections. Because of the severity of violations at TDCJ facilities, all are on fire watches.

## Summary

SFMO continues to improve the number of inspections conducted each year to assure the safety of the citizens of Texas. The number of inspections grew by 35 percent in FY 2014 and by 11 percent in FY 2015. This was made possible by the addition of inspector personnel.

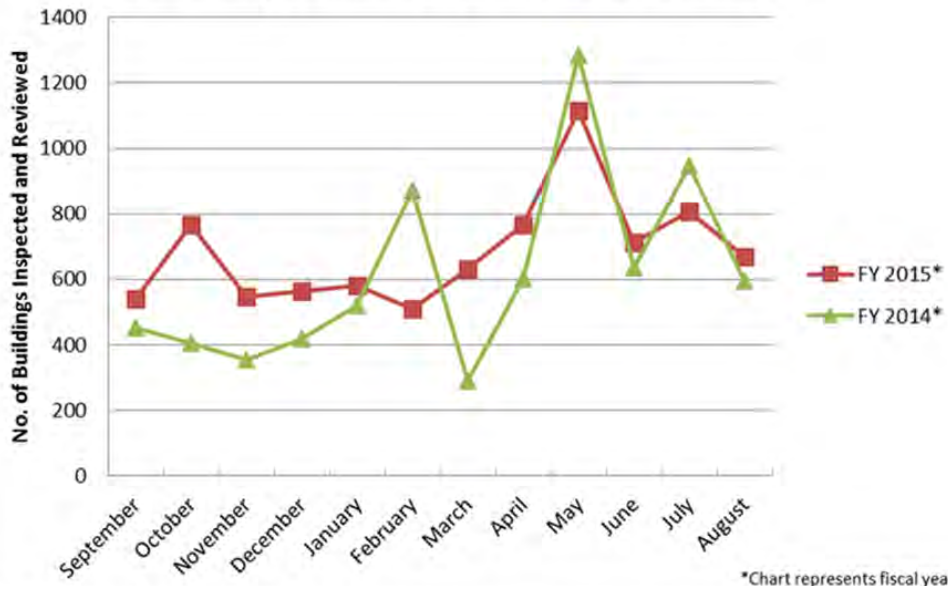
There continues to be a significant number of life safety violations noted during SFMO inspections. There is also the challenge of improper use of small appliances, extension cords, and power strips by tenants that increase fire hazards in state buildings.

SFMO inspectors spend approximately 46 percent of their time on new building inspections, 36 percent of their time on re-inspections, 11 percent of their time on fee based inspections, and 7 percent of their time on reports and other administrative issues. The problem of re-inspections on reported issues being corrected, but not actually being done, is a poor use of state resources. This occurs not only with fee-based inspections, but also with state-owned facilities, leased facilities, and universities.

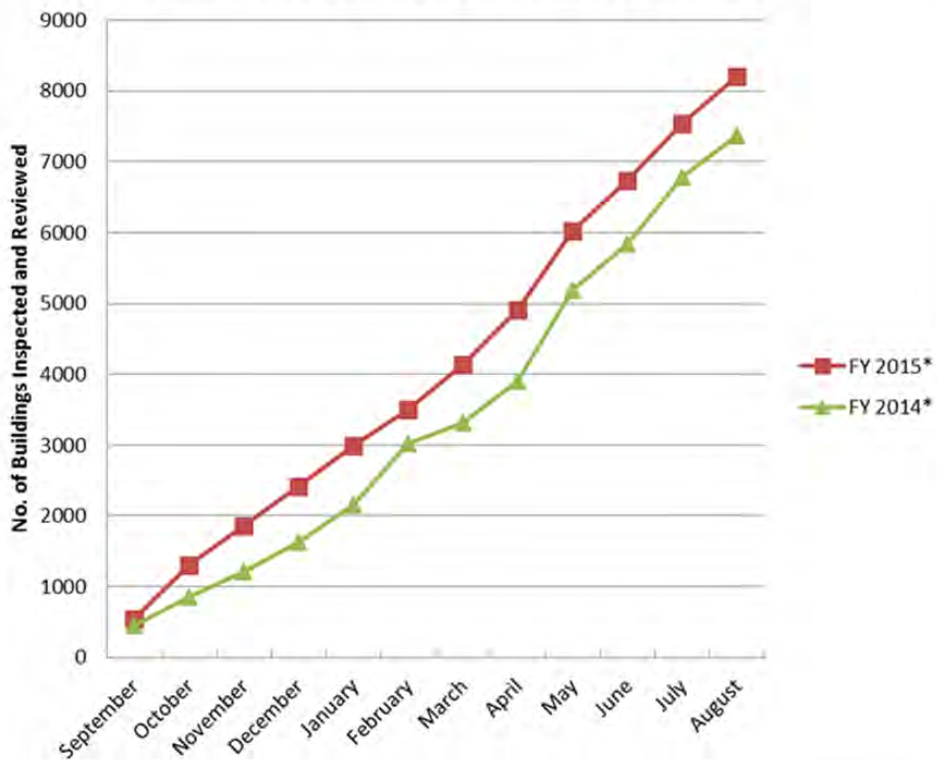
A recurring issue is that violations are reported to be corrected, but during the re-inspection SFMO finds that the repair has not been made. This wastes limited resources on a re-inspection and leaves facilities out of compliance. SFMO will seek the statutory authority to charge for a third or greater re-inspection to verify that violations that were not fixed are actually completed. SFMO also suggests language in TFC leases that would allow for fines of the building owner when code violations are not corrected timely.

SFMO is prepared to assist the various agencies achieve successful resolution of the deficiencies identified in inspections.

### Monthly Number of Buildings Inspected



### Cumulative Total of Buildings Inspected





## Appendix A: Fire and Life Safety Risk Assessment Spreadsheet for State of Texas Facilities

A building's relative risk value takes into account a number of factors: building use; occupant load; building height; fire protective systems and features; and findings from previous SFMO inspections. SFMO's risk ranking system assigns various weights to these factors to determine the relative risk value for the building. Facilities with a higher relative risk would be inspected more frequently than those with a low relative risk. SFMO also provides information from the risk ranking system to SORM, to keep them up to date on which facilities need the most attention with regard to fire and life safety concerns.

The Fire and Life Safety Risk Assessment methodology consists of a number of factors, determined by general building characteristics and inspections that contribute to an overall risk for facilities in the State of Texas. The facility's overall risk is a product of all the factors. All facilities are based off a starting risk value of "1."

For any factors in which a specific value is not applicable or has not yet been determined, a place holder of "1" is assigned.

Three factors -- Valuation, Critical Facility and Facility Management -- have been identified but are not yet included in the overall risk calculation.

The Overall Risk Factor is the product of all the factors listed below. A higher value of the Overall Risk Factor is equivalent to a greater risk.

- Building Height Factor
- Building Use Factor
- Occupant Load Factor
- Sprinkler Protection Factor
- Alarm Factor
- Other Systems Protection Factor
- Sprinkler Violation Factor
- Alarm Violation Factor
- Other Systems Factor
- Egress Violation Factor
- Building Services Violation Factor