



Annual Report Regarding Findings in Conducting Life Safety Inspections

FY 2018



Texas Department of Insurance
Kent Sullivan, Commissioner of Insurance
Orlando P. Hernandez, State Fire Marshal

State Fire Marshal's Office

333 Guadalupe Street
Austin, Texas 78701

(512) 676-6800

www.tdi.texas.gov/fire

Publication ID: SFMOSBR-0119
Published December 2018



TEXAS DEPARTMENT OF INSURANCE

State Fire Marshal's Office (112-FM)

333 Guadalupe, Austin, Texas 78701 * PO Box 149221, Austin, Texas 78714-9221
(512) 676-6800 | F: (512) 490-1063 | (800) 578-4677 | TDI.texas.gov | @TXSFMO

December 31, 2018

The Honorable Greg Abbott, Governor
The Honorable Dan Patrick, Lieutenant Governor
The Honorable Joe Straus III, Speaker

Re: Annual Report Regarding Findings in Conducting Life Safety Inspections

Dear Governors and Speaker:

In accordance with Texas Government Code, Section 417.0081 (c), the State Fire Marshal's Office is required to submit an annual report regarding the State Fire Marshal's findings in conducting inspections. Attached is the State Fire Marshal's Fiscal Year 2018 Annual Report Regarding Findings in Conducting Life Safety Inspections.

Please contact either me or Libby Elliott, Director of Government Relations at (512) 676-6602, if you have any questions or need any additional information regarding this required report.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Orlando P. Hernandez".

Orlando P. Hernandez
State Fire Marshal

Cc: Kent Sullivan, Commissioner of Insurance
Senate Business and Commerce Committee
House Insurance Committee
House Environmental Regulation Committee

Contents

Executive summary	3
TFC-owned buildings	6
TFC-leased buildings	11
State-owned buildings not under TFC control	13
Universities	15
State schools and hospitals	16
Texas Parks and Wildlife Department	18
Technical State Technical College	19
Corrections and detention centers	20
Fires in state-owned or leased facilities	21
Future	22
Appendix: Report on universities	23

Executive summary

The State's Fire Marshal's Office (SFMO) has been inspecting state-owned properties for decades and inspecting buildings leased by the state since 2012. The greater part of this report will address the fire safety status of state-owned and state-leased buildings under the charge of the Texas Facilities Commission (TFC). This report also includes information on the inspection of state-owned buildings not under the control of TFC. The SFMO's goal is to ensure that all state-owned and state-leased buildings provide a safe environment for state employees and the public.

Why we did this report

Texas Government Code 417.0081(c) requires the SFMO to submit an annual report to the governor, lieutenant governor, speaker of the House of Representatives, and appropriate committees of the legislature about the State Fire Marshal's inspection findings.

SFMO inspections of state facilities are prioritized and conducted on a risk analysis basis developed in consultation with TFC and the State Office of Risk Management (SORM). In Fiscal Year 2018, 11 percent of SFMO inspections involved non-state-owned facilities for a fee as authorized by state law.

To achieve compliance with fire and life safety standards in TFC-owned and managed buildings, the SFMO works with TFC and SORM to educate and change the behavior of tenants not complying with life safety standards. In addition to documenting code violations, the SFMO also notifies TFC of any violations of their tenant manual that are observed during the inspection.

Funding continues to affect the remediation of inspection findings of state properties. The SFMO works with TFC and other state-owned properties to prioritize inspections of facilities and identify deficiencies that pose the greatest risk. This is done to ensure that available funds are spent efficiently to identify and resolve life safety risks.

It is important to note the difference between obtaining compliance with the adopted NFPA codes in state-owned buildings as compared to leased buildings. The SFMO has clearly defined enforcement authority for state-owned buildings. Privately owned buildings, leased by the state, are subject to local building and fire ordinances and

contractual obligations. The SFMO works with TFC, SORM, and occupying state agencies to make the most effective use of the resources available and to ensure that leased buildings provide a safe environment for state employees and the public. Many building owners correct issues once they are made aware of them.

Key findings

- Unsafe locking arrangements for bathrooms in some university dorms are still being resolved.
- Lack of funding continues to be the primary reason inspected entities offer as to why safety deficiencies have not been resolved. The additional funding TFC received in the past is helping to reduce life safety violations in TFC properties.
- Additional buildings continue to be identified for inspection. The SFMO is working with other state entities, particularly the university systems, to establish a reporting system that notifies the SFMO about new construction.
- Life safety inspections continue to find violations involving the use of extension cords and power strips, and of unrepaired firewall penetrations.
- The Texas Department of Criminal Justice (TDCJ) has 400 detention units with issues such as non-working fire alarm systems. Some systems reported as having been fixed were found to be deficient. The agency is working with the TDCJ to identify and correct violations in a cost-effective way.

Fire inspections risk analysis and inspection cycles

The SFMO's goal is to inspect all state-owned facilities on a regular basis, consistent with the challenges presented by the building and its associated risks. The SFMO uses a risk-based approach to establish the schedule for inspections.

- Resident and patient areas of state-supported living centers, state hospitals, and other Texas Health and Human Services Commission facilities that provide residential care will be inspected each year.
- Buildings seven stories or higher will be inspected every two years.
- University dorms will be inspected every two years.
- Other residential facilities under the charge of any state agency will be inspected every three years.

- The inspector verifies that fire drills occur regularly at all state-operated schools, such as those serving students with hearing and visual impairments, where the SFMO has primary responsibility for fire safety.
- State buildings that experience a fire that results in a required repair will be inspected every six months for a year and then return to the established inspection cycle for that occupancy.
- All state criminal justice facilities will be inspected every three years. Detention facilities are unique in that the fire and life safety program aim to protect occupants in place rather than to remove them from the building.
- All other state-owned and leased facilities will be inspected every five to eight years. Presently, the SFMO's inspection cycle for these remaining state buildings is eight years. The SFMO expects to be able to inspect these buildings every five years once a new record management system is implemented in FY 2019.

The SFMO has 16 fire inspectors. One of these inspectors is dedicated to the Capitol complex. The SFMO conducted 6,954 inspections in FY 2018, compared to 5,807 inspections in FY 2017. In FY 2018 there were 17,253 violations identified. In FY 2017 there were 10,216 violations identified.

The SFMO has identified approximately 2,700 locations owned or occupied by state agencies. Each location may have multiple structures in need of inspection. The SFMO estimates that there may be as many as 16,000-19,000 individual state-owned or state-occupied structures. There is no comprehensive database of state-owned properties. The SFMO collects information during each inspection to update its own list of individual buildings for inspection. The SFMO has identified more than 15,000 structures. This process is ongoing, and more buildings are being identified.

Historically, 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 ongoing issues with scheduling inspections of TFC-leased spaces on a risk-based priority is that the information available on these facilities is often outdated. Therefore, the SFMO collects detailed information needed for a risk analysis after inspecting each site. This process requires a manual review of inspection data.

TFC-owned buildings

The SFMO, in coordination with the TFC and SORM, regularly inspects state-owned buildings and monitors fire safety improvements. Each agency assumes certain responsibilities, and the agencies meet quarterly to ensure ongoing cooperation and progress.

The SFMO schedules periodic inspections of TFC buildings using a risk-based approach as authorized by Texas Government Code 417.0081(b). The 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.

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

The SFMO continues to make progress by working with TFC. As an example, fire safety at the Texas School for the Deaf has greatly improved due to numerous fire protection upgrades.

Findings

Some buildings within the state's portfolio have common features and deficiencies that create an elevated level of risk. As an example, high-rise buildings pose unique challenges for life safety and fire protection. These buildings are large, with high occupant loads. Violations found in these buildings include compromised fire/smoke barriers, improper locking systems that can hinder a person's ability to escape a fire, and deficiencies in building fire alarms, fire sprinklers, and fire suppression systems.

There are notable issues that continually appear in other state buildings, such as rooms

without sprinkler coverage, mechanical rooms that lack self-closing devices on every floor, and utility shaft breaches throughout the structure with large holes in the mechanical room walls on every floor. Penetrations within the firewalls would allow a fire to travel unimpeded through firewalls and fire-rated floors, making fire protection features less effective.

Complete fire sprinkler systems and fire alarm coverage are essential elements of fire protection and occupant safety. However, their performance is degraded, and the efficiency of the evacuation of a building is diminished when these systems have deficiencies, such as blocked exits, non-functioning fire doors or non-rated doors where fire doors are required, and firewalls with unprotected penetrations.

Consistent and ongoing building maintenance, while ensuring that contractors complete their work to required standards, greatly affects a building's overall life safety. Major building service 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 safety issues related to state employees' actions throughout state-owned buildings include the improper use of extension cords, power strips, and food warming and cooking equipment.

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 used 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 combustibles that could ignite and 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 several recent events in state buildings where an overloaded power strip has failed and caused a fire.

Extension cords are also commonly used to provide power to appliances. Extension cords are not designed to be under permanent electrical load and should not be used in the place of permanent wiring. The SFMO continues to note this violation and educate

staff and management of the dangers of this condition. 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, also may contribute to electrical distribution fires. Office building electrical systems are designed for a specific load that typically consists of computers, printers, and other related office devices. When occupants have their own coffee pots, heaters, and other appliances, the design loads for the office may be exceeded and cause stress on the building's electrical system over time. This continues to be a significant fire risk.

Inspectors continue to find power strips plugged into uninterruptible power supply (UPS) devices. This arrangement is improper for the power strip and may defeat the purpose of the UPS and the surge suppression of the power strip.

Each electrical connection increases the potential for heating on an electrical cord to occur. Each 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 are not always effective.

Obtaining compliance in this area continues to be a challenge due to the lack of employee awareness, turnover in state agency personnel, and frequent reconfiguration of office spaces. The SFMO, TFC, and SORM have worked together over the past several years to develop programs to address these tenant issues. SORM has produced a video on workplace fire safety that is available online. The TFC updated its tenant manual to add information about the proper use of electrical utilities and the misuse of unauthorized appliances.

The SFMO has included more detailed information on tenant-related issues in inspection reports so that TFC can notify leadership of tenant agencies about life safety code violation issues. TFC will copy SFMO and SORM on these notices so that the SFMO can follow up with agency leadership to help achieve greater compliance. Also, SORM will copy the SFMO and TFC as needed on their reports, informing them of identified life safety code violations. Timely correction of code violations in TFC-owned and managed buildings has been a challenge. The SFMO seeks to obtain compliance through communication and education of stakeholders.

When cooperative efforts fail, however, state law allows the SFMO to issue an order requiring remediation and closure of a building. Enforcing an order may require assistance

from the Office of the Attorney General for an injunction. Local fire authorities often have additional remedies, such as the ability to assess fines, to bring a building into compliance.

The SFMO and TFC continue to work together on all buildings in their portfolio. SFMO inspectors and TFC staff have walked through several different buildings to clarify violations for TFC and to offer alternatives for correcting those violations.

The following is an update on TFC building work and planned improvements.

Stephen F. Austin

- Stairwell pressurization system has been totally replaced and tested.
- Fire department connection piping was replaced due to a severe leak and tagged for compliance.

William P. Hobby

- Stairwell pressurization systems are being replaced.
- Dampers and smoke control systems have been engineered and are being installed.
- The audio level for fire alarm speaker systems was inadequate and has been repaired.
- Elevators were replaced, bringing fire service to the current standard.

William P. Clements

Elevators were replaced, bringing fire service to the current standard.

Brown Heatly Building

Elevators were replaced, bringing fire service to the current standard.

James Earl Rudder

Elevators were replaced, bringing fire service to the current standard.

Texas School for the Blind

Replaced the entire fire alarm system with a new mass notification upgrade.

Texas School for the Deaf

- Added new fire sprinkler systems for the toddler learning center and Deaf Smith buildings.
- Austin Fire Department has completed a site-wide survey for fire hydrant compliance. The fire department found one hydrant should be added. We are adding the requested hydrant to stay in compliance.
- Sprinkler system in the Seager gym has been brought into compliance.

Robert Moreton

- Replaced the fire pump controller as an emergency repair.
- Fire department connection piping replaced due to a severe leak and tagged for compliance.

DSHS Dr. Bob Glaze

- Replaced fire pump to meet current standards.
- During a site survey, it was determined the sprinkler pressure for several floors exceed the manufacturers operating pressure as it relates to sprinkler pipe and fittings. TFC added a pressure reducing valves to bring pressure below manufactures' limits.

Towers Building

During a site survey, it was determined the sprinkler pressure for several floors exceed the manufacturers operating pressure as it relates to sprinkler pipe and fittings. TFC added a pressure reducing valves to bring pressure below manufactures' limits.

TCEQ Building A

More than 350 sprinkler heads were replaced for recalled purposes and tagged for compliance.

Lyndon B. Johnson

- Complete renovation of the 7th and 8th floors fire alarm and fire sprinkler system.
- Stairwell pressurization system has been replaced and tested.

All TFC buildings

- KNOX replaced all keys for each box and ensured proper keys and badges had been provided for first responders.
- All known violations for fire sprinkler, fire alarm and fire suppression systems have been repaired and tagged for compliance.

TFC parking garages

- Five-year flow tests have been conducted at most parking garages.
- New hydraulic calculation plates were provided directly after each test.
- More than 600 extinguishers have been ordered and are starting to arrive to add to all parking garages that have non-compliant areas.

The SFMO and TFC continue to partner to identify and correct issues in state buildings to protect the safety of state employees and the public.

TFC-leased Buildings

The SFMO has identified several challenges involved with the inspection of leased buildings. The risk-related information available on state-leased buildings is limited, making it impractical to schedule inspections on a comprehensive risk-based basis. The SFMO schedules initial inspections of the leased inventory with priority given to the largest spaces and buildings located near other inspection priorities. As the inspections are conducted, the SFMO collects additional information on these buildings, as well as inspection findings, to incorporate into the risk-based method for prioritizing future inspections.

When inspecting leased property, SFMO inspectors contact the local authority who has jurisdiction. Generally, the SFMO's standards are more stringent than the locally adopted codes. When issues arise due to the deviation between codes used by local and state inspectors, these situations have historically been resolved with the local authority without conflict.

While the mandatory inspection of TFC-leased facilities has increased the SFMO's overall workload, the SFMO inspectors are incorporating these duties into existing responsibilities and other annual and ongoing inspections.

Many buildings leased by TFC for state agencies have other tenants as well. The SFMO has limited its primary inspections to the space occupied by state agencies and does not inspect areas occupied by other tenants. The SFMO inspects each building's fire protection systems and exit features used by state agencies that may be outside of the space they occupy, such as stairwells, corridors, and exterior exit doors.

TFC advises the SFMO when a lease is being renewed, an agency is seeking new quarters, or when a new space is needed. This allows the SFMO to inspect prospective properties before a lease is signed and 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. The SFMO recommends that all leases by state agencies include this provision.

Findings

SFMO inspectors have found that the routine maintenance of life safety features and equipment is lacking in leased facilities.

These deficient life safety features and systems include fire alarm systems, fire sprinkler systems, portable fire extinguishers, fire doors, and door closers, emergency lighting fixtures, 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.) is also common, similar to the challenges faced in TFC-owned and managed facilities.

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

If an owner does not provide a timely response or address the noted fire and life safety issues, TFC will issue a notice of default and may terminate the lease. Most owners have addressed SFMO inspection findings promptly. In cases where major life safety issues were not corrected, state employees were moved to other facilities.

State-owned buildings not under TFC control

Buildings under the control of the TFC represent a small portion of state-owned buildings. According to its 2016-17 Legislative Appropriation Request, the TFC maintains 17.8 million square feet of state-owned properties and 800 leases comprising 10.3 million square feet of leased properties. Based on data collected from state agencies, there may be as many as 19,000 state-owned buildings totaling more than 303 million square feet. During previous inspections of state buildings, it was often found that a single address listed for an agency might include many individual buildings.

The SFMO regularly inspects only a portion of these buildings, including state universities, state-supported living centers, state hospitals, state criminal justice facilities, and certain state preservation board facilities, including the Capitol. More than 14,000 individual 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, the Teacher Retirement System, and the Employees Retirement System. Some agencies also have had one-time inspections conducted in a limited number of their facilities, including the Texas Department of Transportation, Texas Workforce Commission, and the Texas Military Department. The SFMO estimates that at least 3,600 state-owned buildings have never been inspected.

Under the SFMO's new inspection procedures, all state buildings are now on a recurring inspection cycle. This includes rest stops, housing units, and any other state-owned or leased facilities previously not inspected to ensure employee safety.

Research shows that more frequent inspections yield better results by determining a best-practice inspection frequency. To inspect each state-owned building and leased space annually, the SFMO would need to increase the number of inspectors. Fire departments throughout the country face similar challenges, and annual inspections of all facilities within a jurisdiction is rarely achieved.

The SFMO's goal is to inspect all state-owned facilities on a regular basis, consistent with the risk presented by the building, as identified in this report. The SFMO uses a risk-based approach for establishing a schedule for inspecting all state-owned facilities.

Findings

The dormitory bathroom locking arrangements identified in previous reports continue to exist in several universities. Some universities have corrected the locking issues by removing the locks. The removal of the identified locks will prevent a student from being locked inside and unable to exit the bathroom.

Some state universities lease existing apartment complexes and rent the apartments to students. This presents challenges for the SFMO. Some of the apartment complexes do not meet the standards of NFPA 1 and may not be inspected by the local authority with jurisdiction, as they believe the property is under the control of the SFMO.

Universities

The SFMO continues to work with university systems to make sure fires are correctly and timely reported to the SFMO. In FY 2018, the agency received 23 reports of fires at state universities. It is important for universities to report fires occurring on campus to the SFMO as required. This ensures a proper fire scene investigation is conducted.

The SFMO continues to conduct inspections at state-funded universities and has found life safety hazard violations such as fire alarm system and fire sprinkler systems being red-tagged, non-working exit signs, and non-working emergency lighting units in stairwells and other areas of buildings. It is recommended that universities coordinate with the SFMO before construction to ensure all building construction complies with the fire code and the life safety codes. If the SFMO is not made aware of new construction between inspection cycles, the new buildings may violate the adopted fire code.

As a result of this outreach, the SFMO has developed a working relationship with the University of Houston and the University of Texas System. The SFMO encourages all universities to communicate and notify the office of any buildings under construction or any future building projects. At a recent meeting with several universities, the SFMO asked for documentation on new buildings under construction, leased building space, and proposed new buildings. As of the date of this report, only two universities have responded to the request.

State schools and hospitals

Texas School for the Deaf

The Texas School for the Deaf and TFC have resolved most of the 130 fire safety violations noted in FY 2014. Those violations included problems with fire alarm and fire protection sprinkler systems, lack of self-closing fire doors, and a paint spray room lacking a supervised automatic extinguishing system.

The Texas School for the Deaf implemented fire watches and has been working cooperatively with the SFMO to fix violations.

As of September 2018, the following improvements have been made:

All fire alarm networks are free of faults and deficiencies.

- There are no deficiencies on any of the sprinkler or suppression systems.
- The paint booths in the Kleeberg buildings now have suppression systems.
- All rooms, offices, and large closets on the campus have audio-visual coverage.
- Fire sprinkler systems were added in the Deaf Smith Center and Toddler Learning Center. A fire sprinkler system is being added to the Clinger Gym.
- A new fire hydrant was added to accommodate the new sprinkler systems in Clinger Gym and the Toddler Learning Center.
- Magnetic door holders were added on the entire third floor of the high school/middle school. Magnetic door holders will be installed throughout the entire campus to alleviate propping doors open.
- A fire/smoke damper inspection program is scheduled to begin spring break of 2019.
- A new dust collector was added in the Ford building woodshop with an explosion proof damper that is monitored by the Fire Alarm System.
- KNOX boxes were added at both entrances.

The SFMO, Texas School for the Deaf, TFC, and SORM continue to work together to correct all identified life safety hazards. It is expected that all fire code violations will be completed in FY 2019.

State hospitals and state supported living centers

During FY18, the SFMO inspected state hospitals and state supported living centers and identified 1,312 violations. There were 564 corrections made in FY 2018. During this same period, there were 18 reported fires.

The SFMO has recommended the use of automatic flameless cigarette lighters. These devices can be installed outdoors, and residents can light a cigarette with a push of a button. These devices have helped to reduce the number of fires at the San Angelo State Supported Living Center. The SFMO has recommended that staff check residents for flame-producing devices in their possession while on the property to reduce the possibility of unwanted fires.

The SFMO posts reported state property fires online at www.tdi.texas.gov/fire/fmfsifirereport.html.

Texas Parks and Wildlife Department

The SFMO and the Texas Parks and Wildlife Department (TPWD) have agreed to meet quarterly to improve communication and understanding of the requirements of the SFMO and its adopted codes. The SFMO provided copies of NFPA 1 and 101 to TPWD staff, to better inform and improve understanding of the fire code requirements to help protect the safety of the millions of guests who stay within the park system each year.

Residential facilities operated by TPWD will be inspected once every three years. Residential housing will be inspected once every two years until all houses are brought into compliance. Once compliance is achieved, the residential houses will fall into the three-year cycle with other areas of the park. We continue to work with TPWD to resolve all issues.

The SFMO worked closely with TPWD to resolve issues at the Franklin Mountain Park. SFMO management met with officials from the El Paso Fire Department and local emergency services district to resolve issues with water and responding agencies. All parties will work together to address additional concerns. The SFMO worked with TPWD to resolve water issues to ensure proper water storage for the required sprinkler system and eliminate the sprinkler requirement for the restrooms based on construction type.

The Battleship Texas is equipped with an outdated fire alarm system. The SFMO has suggested alternatives to save money and alleviate the problem of finding obsolete parts. This issue has not been fully resolved but is expected to be resolved in FY19.

Texas State Technical College

During a recent inspection of Texas State Technical College (TSTC) Waco, the SFMO identified electrical and egress issues with housing units were built between 1930 and 1950. Most of the units do not have two ways to exit the building and need windows that could be used to escape a fire. The SFMO is working closely with TSTC Waco to resolve code violations. TSTC Waco has started the process of renovating the units and adding the proper escape windows. Some of the unoccupied housing units have been put on hold, as well as some that were scheduled for major renovations. TSTC Waco has worked closely with the SFMO and maintains regular communication.

The Air Traffic Control Tower needs a sprinkler system installed because of its height and offices located below the deck of the tower. The sprinkler system was completed ahead of schedule, and the tower is now fully compliant.

There are several other issues throughout campus, such as firewall penetrations, and TSTC Waco is putting the necessary funding and effort into correcting the violations in FY 2018-19.

On February 7, 2018, the Sweetwater Fire Department responded to a fire at the Bluebonnet Dorm located on the TSTC Sweetwater Campus. There were no fatalities or injuries associated with the fire; however, the fire department was unable to extinguish the fire due to low water pressure from the fire hydrant. TSTC is working to fix the issue of water pressure on the campus.

Corrections and detention centers

The primary issue identified at the Texas Department of Criminal Justice (TDCJ) facilities is a lack of required fire alarm systems. Inspections have reported 233 out of 400 facilities lack an operational fire alarm system. In many cases, TDCJ has issued a work order for repairs or a new system; however, there has been no further action. TDCJ reported they are seeking bids to fix fire alarm systems at nine centers. The SFMO continues to work with TDCJ to replace non-working fire alarm systems.

The SFMO worked closely with TDCJ on several issues at the Garza East and Garza West units in Beeville, including several cooking related issues, and the need for fire protection systems.

The SFMO continues to offer services to help TDCJ with its fire alarm issues by looking at plans and making sure they are not paying additional funds for unnecessary fire alarm systems.

The SFMO has provided TDCJ with a list of life safety items to correct in residential staff housing. The list included the replacement or repairs to smoke detectors, carbon monoxide detectors in housing with gas appliances, and GFCI outlets to protect occupants.

TDCJ reports that when a fire alarm system is offline, a fire watch is implemented to ensure inmates are properly protected and can be removed from the facility in case of a fire. Also, TDCJ has put in place new procedures to ensure fires are reported promptly to the SFMO.

The SFMO identified violations in many of the kitchens in corrections facilities across the state. The main violation is the cooking of meat producing grease laden vapors in the steam kettles without proper coverage with a UL300 suppression hood system. The SFMO is working to create a policy to assist TDCJ with being able to continue cooking operations until permanent suppression systems can be installed. Another kitchen issue is the movement of cooking appliances, which limits the suppression capabilities in the event of a fire. The SFMO has provided guidance on a means to mark the floors and to insure appliances are placed back in the appropriate places.

Fires in state-owned or leased facilities

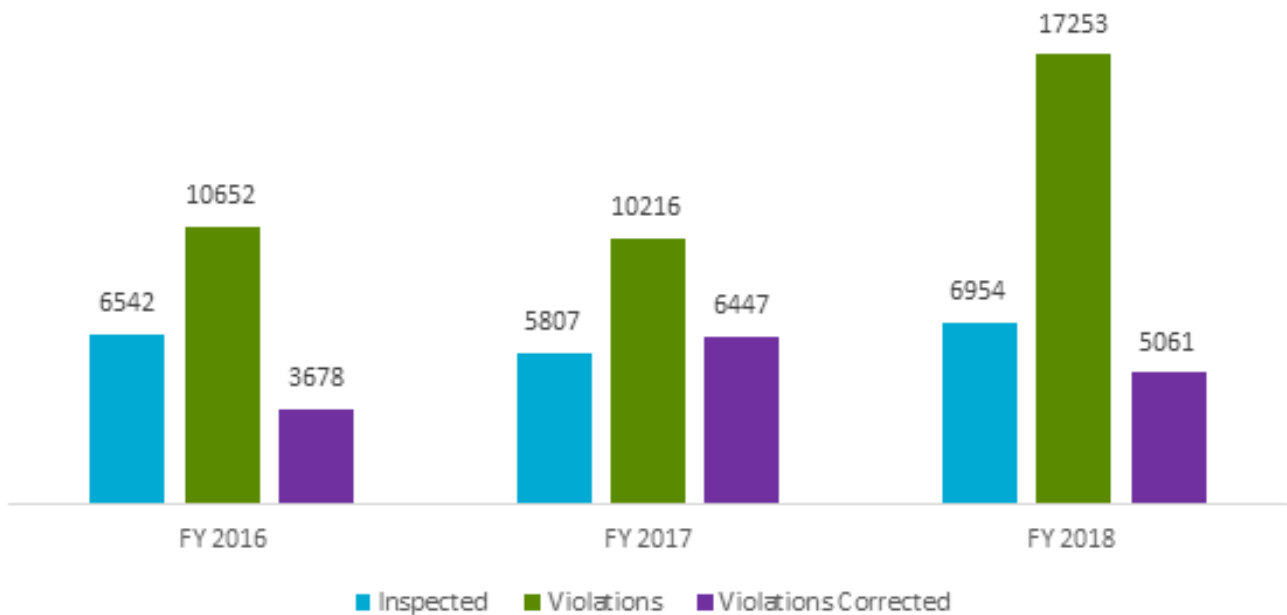
During FY18, there were 51 documented fires in state owned or leased buildings. The goal of reporting these fires is to allow SFMO staff to identify trends and document the causes of fires to better educate both staff and the public.

Failure to report and investigate these fires results in the inability to seek restitution when a fire is intentionally set and disrupts services of the state agencies.

Future

As the SFMO works toward the new adoption of NFPA 1 and 101 in FY19, the working relationship with state partners is vital to continue providing a safe working environment for state employees. Over the past year, numerous meetings with state agencies have helped identify violations, which we believe to have a direct result in the decrease of violations being identified by inspectors. Many of these state agencies have reached out and requested inspectors to put on presentations on the inspection procedures and the most common violations found during an inspection. This cooperation helps the various agency safety staff conduct their own inspections. The SFMO will continue to conduct research and offer educational opportunities to our state partners.

State buildings and violations



The number of state buildings inspected decreased in FY 2016 and 2017 due to recruiting challenges and the required qualifications to conduct inspections. During the 85th Texas Legislature, the SFMO added a second inspector to the Capitol due to an increase in daily visitors. Additionally, up to four inspectors and investigators from other SFMO sections were reassigned as needed during the legislative session. The reassignment of staff had an impact on the completion of inspections at state facilities.

Appendix: Report on universities

The following higher education buildings have the following violations. If the State Fire Marshal's Office (SFMO) has received a response from the university, it is indicated. Some of the violations have been ongoing for several years. The SFMO makes every effort to work with the universities and state colleges to remedy to existing violations. In 2019, the SFMO will meet with colleges and universities to develop action plans to correct the existing violations and the lack of reporting fires on campuses. For several years, the SFMO has requested Universities to reach out and notify when they have had a fire on or in one of their facilities. The reporting will enable the SFMO to develop trends as to the causes of the fires, which will enable the agency to develop educational training opportunities to educate on the importance of fire causes, seen on University campuses. Not only will this provide an educational opportunity, but many of these fires result in damages and destruction to state property. Without a proper investigation and determination, many intentionally set fires will result in no criminal charges and no chance of acquiring restitution.

Prairie View A&M University

AG Business

- The fire sprinkler system is red tagged due to the fire pump having no electricity. Fire pump was red tagged on 08/08/2017. *NFPA 1, Fire Code, Chapter 4.5.8.1.*
- Failure of the fire pump to operate will result in little to no pressure on the sprinkler heads which activated as a result of the fire. We are trying to determine if this pump feeds more than one building or if it is attached to storage water on the property.
- The fire alarm system has no tags for inspection. *NFPA 1, Fire Code, Chapter 4.5.8.1.*

Coleman Library

- Sprinkler System – Tag: Yellow
Last Inspection Date: 10/09/2017
Noted Deficiencies: Manifold leaking, Standpipe unable to perform test because fire pump needs to be rebuilt. Tamper did not report.
- The fire department connection (FDC) is yellow tagged. The FDC failed due to manifold leaking. *NFPA 1, Fire Code, Chapter 4.5.8.1.*

- The fire alarm system has no tag for inspection. *NFPA 1, Fire Code, Chapter 4.5.8.1.*

Leroy Moore Gym

- Sprinkler System – Tag: Yellow
Last Inspection Date: 10/09/2017
Noted Deficiencies: Check valve blocked by concrete wall.
- The FDC is yellow tagged. The FDC failed due to check valve blocked by concrete wall. *NFPA 1, Fire Code, Chapter 4.5.8.1.*
- The fire alarm system has no tag for inspection. *NFPA 1, Fire Code, Chapter 4.5.8.1.*

Texas Tech University – Residential

Chitwood Hall

- All the bathrooms throughout the building have dead bolt locks that lack a means to unlock the bathroom from the interior side. *NFPA 1, Fire Code, Chapters 14.5.2.1 and 14.5.2.3.*
- This is a common problem across all Universities. These are shared bathrooms. One side will engage the dead bolt to prevent their suite mates from coming in their bedroom from the bathroom. If someone is in the bathroom, the person could become trapped if someone locks them in from the door they entered.

Texas Woman's University – Residential (Inspection 2/22/2016)

Bent Tree Apartments

- The building exceeds 12 units and lacks the required exterior emergency lighting. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.13.1.1; and NFPA 101, Life Safety Code, Chapters 31.2.9 and 7.9.*
- The building exceeds 11 apartment units and lacks the required fire alarm system. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapters 13.7.2.12.1, 13.7; and NFPA 101, Life Safety Code, Chapters 31.3.4.1.1 and 9.6.*

Vineyard Apartments

- The building exceeds 12 units and lacks the required exterior emergency lighting. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.13.1.1; and NFPA 101, Life Safety Code, Chapters 31.2.9 and 7.9.*
- The building exceeds 11 apartment units and lacks the required fire alarm system. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapters 13.7.2.12.1, 13.7; and NFPA 101, Life Safety Code, Chapters 31.3.4.1.1 and 9.6.*

Lone Star Apartments

- The second-floor open walkway has one mean of egress and exceeds the dead end allowable distance of 20 feet. The dead-end distance measures 29 feet at apartments

203 and 204. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.1; and NFPA 101, Life Safety Code, Chapters 31.2.5.1, 31.2.4.1, 7.5.3.3 and 7.5.1.*

- The building exceeds 11 apartment units and lacks the required fire alarm system. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapters 13.7.2.12.1, 13.7; and NFPA 101, Life Safety Code, Chapters 31.3.4.1.1 and 9.6.*

Building 3

- The building exceeds 11 apartment units and lacks the required fire alarm system. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 13.7.2.12.1, 13.7; and NFPA 101, Life Safety Code, Chapters 31.3.4.1.1 and 9.6.*
- The second-floor open walkway has one stairway mean of egress and exceeds the dead end allowable distance of 20 feet from the following apartments. (Violations on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.1, 14.9.1.1; and NFPA 101, Life Safety Code, Chapters 31.2.5.1, 31.2.4.1, 7.5.3.3 and 7.5.1.*
- Dead end walkway distance to stairs from apartment 213 and 214 = 22 feet
- Dead end walkway distance to stairs from apartment 210 and 217 = 29 feet

LaMauretta Apartments

- The building exceeds 12 units and lacks the required exterior emergency lighting. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.13.1.1; and NFPA 101, Life Safety Code, Chapters 31.2.9 and 7.9.*
- The building exceeds 11 apartment units and lacks the required fire alarm system. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapters 13.7.2.12.1, 13.7; and NFPA 101, Life Safety Code, Chapters 31.3.4.1.1 and 9.6.*

Austin Villa Apartments

- The second-floor open walkway only has one means of egress and exceeds the dead end allowable distance of 20 feet. The dead-end distance measures 56 feet. (Violation on the 2014 inspection.) *NFPA 1, Fire Code, Chapter 14.1, 14.9.1.1; and NFPA 101, Life Safety Code, Chapters 31.2.5.1, 31.2.4.1, 7.5.3.3 and 7.5.1.*

University of Texas – Residential

0009 Andrews Hall (AND)

- The attic dry sprinkler system has a yellow tag due to sludge build up as of May 29, 2018. *NFPA 1, Fire Code, Chapter 13.3.3.2.*
- If the system activates, the sludge may move to the activated head and impede the flow of water. This inspection was conducted 07/15/2018.

University of Texas Tyler at Palestine

UT Tyler University Academy

The UT Tyler University Academy is an Innovation Academy for grades K-12. This campus is owned and operated by University of Texas Systems. Based on the grade levels of the occupants, it meets the code definition of educational occupancy.

- The following locations require “No Exit” signage to be placed because the occupants would exit through an area of high hazard: Room 118, Room 103, Vending, Special Programs, and Storage. *NFPA 1, Fire Code, Chapter 14.14.8.3.1.*
- The latch and lock on the door between Rooms 103 and 107 requires a key on both sides. *NFPA 1, Fire Code, Chapter 14.5.2.3.*
- The following rooms have a rescue window that has a clear width of only four (4) square feet: Room 112, Room 113, Room 115, and Room 101. *NFPA 1, Fire Code, Chapter 14.15.1; and NFPA 101, Life Safety Code, Chapter 15.2.11.1.1 (3).*
- There are multiple locations of penetrations above the suspended ceiling throughout the building. The penetrations are large enough to allow smoke and flames to move to others part of the building. *NFPA 1, Fire Code, Chapter 12.7.5.6.1.*
- The following classrooms have a common path of travel greater than 75 feet based on the current floor plan: Room 112, Room 118, Room 113, and Room 116. This could be lengthened if a full fire sprinkler system was installed. *NFPA 1, Fire Code, Chapter 20.2.1; and NFPA 101, Life Safety Code, Chapter 15.2.5.3.2.*
- The following classrooms are over 250 square feet and require a rescue window: Room 102, Room 118, Room 101, Room 116, and Room 117. *NFPA 1, Fire Code, Chapter 14.15.1; and NFPA 101, Life Safety Code, Chapter 15.2.11.1.1.*

University of Texas Medical Branch – Galveston – Residential

Building 34 Vinsant Hall

- The primary means of egress from the second floor is served by an open stairwell that discharges into the first floor and is not provided with separation and enclosure from the remainder of the building. Consult with a fire protection engineering firm to determine methods and means to provide the required separation for the stairway in compliance with applicable provisions of NFPA 1, Fire Code. *NFPA 1, Fire Code, Chapter 14.6.1.1.*

Building 79 Alpha Kappa Kappa

- The primary means of egress from the second floor is served by an open stairwell that discharges into the first floor and is not provided with separation and enclosure from the remainder of the building. Consult with a fire protection engineering firm to determine methods and means to provide the required separation for the stairway in compliance with applicable provisions of NFPA 1, Fire Code. *NFPA 1, Fire Code, Chapter 14.6.1.1.*



**Annual Report Regarding Findings in
Conducting Life Safety Inspections**

FY 2018 • SFMOSBR-0119