

# Fire and Rescue Department

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LOB #230:

## **INSPECTIONS AND FIRE PROTECTION SYSTEMS**

### **Purpose**

The Inspections and Fire Protection Systems LOB involves the provision of life safety inspections, witnessing of fire protection systems acceptance tests in new construction, and witnessing of re-testing of fire protection systems in existing construction. Two of these primary functions have a direct impact on economic development through the provision of acceptance tests of new construction fire protection systems and pre- and post-occupancy non-Residential Use Permit (non-RUP) life safety inspections. Other life safety inspection activities and fire protection systems re-testing have a direct impact on the safety of residents, visitors, and firefighters of the County through provision of thorough fire prevention code inspections.

### **Description**

This LOB is comprised of two program areas: Fire Protection Systems Testing and Fire Inspections. This LOB has been in existence since February 11, 1953 when the BOS established the Fire Marshal's Office (FMO) and assigned inspection of certain public assembly spaces to the Fire Marshal (as well as investigation of fires). In August 1973, the Commonwealth of Virginia adopted the Virginia Uniform Statewide Building Code, which superseded all local building regulations throughout the Commonwealth, including the Fairfax County Building Code. Since that time, the Office of the Fire Marshal has been the agent of the Fairfax County Building Official for the inspection of fire protection and life safety features of all new construction except single-family dwellings.

The Fire Protection Systems Testing Branch enforces the Statewide Building Code and Fairfax County Fire Prevention Code. Inspectors witness code-mandated acceptance tests in buildings under construction or renovation as well as code-mandated re-tests of fire protection systems (i.e. sprinklers, fire alarms) in existing buildings. Acceptance testing services are provided to citizens, contractors, developers, and businesses with fire protection systems. Re-tests are provided to all business owners, building managers, property owners, and building engineers of existing construction buildings. Most of these services are provided Monday through Friday, however, the hours are provided at such times that are more convenient to business owners and building operators. Some services are "on demand" services that are provided after hours or on weekends. Complaint-based and emergency services (such as damage assessment due to natural disasters or frozen sprinkler pipes in buildings) are provided on a 24-hour, 7 days a week, 365 days per year basis.

The Fire Inspections Branch inspects buildings, institutions, and occupancies to ensure compliance with the Statewide Fire Prevention Code, Fairfax County Fire Prevention Code and the Virginia Petroleum Storage Tank regulations in order to maintain a safe environment for all. Inspections involve both commercial and residential structures. Inspections personnel inspect all home day care centers for fire safety for the Office for Children. In addition, they review plans for fire lane installation requirements of the Fire Prevention Code. The inspection of public buildings and industrial facilities, investigation of safety complaints received from citizens and other government agencies, and the issuance of Fire Prevention Code Permits are all functions mandated under the Fire Prevention Code. They also perform occupancy inspections to ensure compliance with the portions of the Statewide Building Code that deal with fire safety items prior to the Department of Public Works and Environmental Services (DPWES) issuing the Occupancy Permit. The Fire Inspections Branch consists of North and South County units handling the daily inspections associated with those geographical areas. The Special Projects unit handles complaints regarding unpermitted commercial work and industrial park inspections. The Code Enforcement Unit handles issues with high risk occupancies such as night clubs and cantinas or other occupancies where special inspection and investigatory skills are needed. Most inspections are provided Monday through Friday between the hours of 6:00 and 4:00. However, certain inspections (such as those relating to occupancy) are provided on demand and are performed after hours and on weekend at no additional cost to the business owner/permittee. Other enforcement activities, such as those involving nightclubs and

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cantinas, require night and weekend work by the inspectors assigned to those units. Complaint based and emergency services (such as damage assessment due to natural disasters) are provided on a 24-hour, 7 days a week, 365 days per year basis.

## Benefits

This LOB increases the safety of the public at-large, reduces the risk of loss of life and property due to life safety hazards and ensures that businesses in the County comply with established safety standards.

The BOS also mandated a cost recovery threshold of 90-100 percent for this LOB for all direct costs related to enforcement of the code (as allowed by Code).

### Inspections:

Enforcement of the Fire Prevention Code increases the safety of the public at-large, reduces the risk of loss of life and property due to life safety hazards, and ensures businesses in the County comply with established safety standards. Fees for these services are charged to recover up to 100 percent of costs per mandate by the Fairfax County Board of Supervisors. Routine inspections are typically done Monday through Friday between the hours of 6:00 A.M. and 4:00 P.M. However, certain types of inspections, such as those related to occupancy, are performed “on demand” and are performed after hours or on weekends based on customer request. Inspectors are headquartered out of two locations: FMO Headquarters at 10700 Page Avenue and a satellite office located at 7921 Jones Branch Drive in McLean.

### Systems Testing:

Ensuring the operational capability of fire protection systems is integral to protecting the lives and property of those who live and visit Fairfax County and protecting the lives of Firefighters. Fees for these services are charged to recover up to 100 percent of costs per mandate by the Fairfax County Board of Supervisors. Routine inspections are performed Monday through Friday from 6:00 to 2:00 hours (normal business hours for the construction industry). However, the Re-testing Unit flexes its hours to accommodate the business during the work week or may provide services on the weekends at no additional charge to the customer. The School System and certain large office buildings typically take advantage of these scheduling changes so the testing of fire protection systems do not impact the school or work day. Inspectors often report to work at 3 a.m. to accommodate testing in these facilities. Testing services are also offered to contractors on an overtime basis if they request weekend or after hours testing of fire protection systems.

## Mandates

### Systems Testing:

Acceptance testing of all fire protection systems is required by the Uniform Statewide Building Code Section 901.5. Re-testing of existing fire protection systems is mandated by the Statewide Fire Prevention Code Section 901.6, and Chapter 62 of the Fairfax County Code, Section 901.6.3 requires the testing of fire protection systems to be witnessed by the Fire Official.

### Inspections LOB:

Chapter 62-2-6 of the Fairfax County Code adopts the Virginia Statewide Fire Prevention Code (Title 27-97 of the Code of Virginia) and Section 104.1 of the Fairfax County Fire Prevention Code assigns enforcement to the Fire Marshal's Office.

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## Trends and Challenges

The Inspections and Fire Protection Systems LOB involves the provision of life safety inspections, witnessing of fire protection systems acceptance tests in new construction, and witnessing of re-testing of fire protection systems in existing construction. Two of these primary functions have a direct impact on economic development through the provision of acceptance tests of new construction fire protection systems and pre- and post-occupancy non-Residential Use Permit (non-RUP) life safety inspections. Other life safety inspection activities and fire protection systems re-testing have a direct impact on the safety of the residents, visitors, and firefighters of the County through provision of thorough fire prevention code inspections.

This LOB received two additional fire inspector positions in FY 2015 to support economic development in the area of acceptance testing of fire protection systems and received an infusion of overtime funding in FY 2015 and FY 2016 to perform after-hours inspections on weekends and evenings. Lag times for hydrostatic acceptance tests have been reduced from six weeks at the time these additional resources were approved to less than two weeks by reallocating a team of inspectors from Systems Re-Testing, hiring the two new inspectors and paying inspectors overtime to perform acceptance tests. The overtime monies were also used to address Non-Residential Use Permit (Non-RUP) inspections required for pre- and post-occupancy when businesses open or occupy new space.

During the period of January 1 – August 31, 2015 the Inspections Branch performed 2,668 Non-RUP inspections. However, the backlog of Non-RUP inspections where the business owners never called for their post-occupancy inspection remained steady at approximately 2,000. This represents a significant backlog of inspections where the FMO typically finds post-occupancy violations and determines the need for any annual Fire Prevention Code Permits. The no-call non-RUPs represent approximately \$150,000 in unrealized revenue because there is not enough staff to address this workload. Even with using the overtime monies allocated, the Inspections Branch is unable to reduce the backlog due to increasing workload demands in other areas. Based on the types of plans and volume of plans submitted to plans review in the past 12-18 months, it is anticipated workload for non-RUPs and other life safety inspections will increase proportionally to the increases experienced in Plans Review. Only additional staff can address this workload increase and corresponding staffing shortfall.

The Systems Re-testing Branch of this LOB recently identified a significant number of buildings where systems re-tests have not been completed for more than five years. The current adopted schedule of systems re-testing sets three years as the maximum length of time between re-tests of fire protection systems. This backlog was caused because the FMO reallocated inspectors from Re-testing to Acceptance Testing to address the workload for new construction in an effort to be responsive to industry and reduce the lag times. The FMO realizes, however, this policy is not sustainable for the long-term. Eventually additional staff must be added to address the workload associated with additional buildings, occupancies, fire protection systems, and additional square footage added to the County's building stock, which will require scheduled re-testing of fire protection systems. Systems Re-testing is performed throughout a building's life cycle on a set schedule based on potential for large life loss should a fire occur. Occupancies such as hospitals, schools, assemblies, high-rises and nursing homes are tested annually. Mid-rises and strip shopping malls are tested bi-annually. Warehouses and those used for storage are tested every three years. It is recommended four additional fire inspectors (two teams) be added to address permanent workload to make inroads to addressing this existing backlog.

It is anticipated the Inspections Branch, Acceptance Testing Branch, and Systems Re-Testing Branch can expect to experience continued growth comparable to that experienced by the Plans Review Branch since engineering plans review is a lead indicator for each of these sections. This LOB is expected to continue to meet its stated objective of recovering 90-100 percent of its direct costs related to code enforcement. Staff does anticipate lag times will be impacted due to workload increases, fire protection systems will not be re-tested according to established schedules due to workload in acceptance testing, and no-call non-RUP inspections will continue to be backlogged resulting in untapped revenues for the General fund if additional staffing is not approved for these business areas.

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## Resources

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
<b>LOB #230: Inspections and Fire Protection Systems</b>			
<b>FUNDING</b>			
<b>Expenditures:</b>			
Compensation	\$3,064,184	\$3,361,212	\$3,816,078
Operating Expenses	174,188	167,061	86,835
<b>Total Expenditures</b>	<b>\$3,238,372</b>	<b>\$3,540,553</b>	<b>\$3,902,913</b>
General Fund Revenue	\$3,880,847	\$4,496,533	\$4,713,778
<b>Net Cost/(Savings) to General Fund</b>	<b>(\$642,475)</b>	<b>(\$955,980)</b>	<b>(\$810,865)</b>
<b>POSITIONS</b>			
Authorized Positions/Full-Time Equivalents (FTEs)			
<b>Positions:</b>			
Regular	62 / 62	62 / 62	62 / 62
<b>Total Positions</b>	<b>62 / 62</b>	<b>62 / 62</b>	<b>62 / 62</b>

## Metrics

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Fire inspection and system testing activities conducted	34,474	37,017	36,896	37,500	38,500
Revenue generated for fire inspection and system testing activities conducted	\$4,368,585	\$4,344,775	\$4,996,109	\$5,591,359	\$5,781,125
Average revenue generated per inspection/systems testing activity	\$126.72	\$117.37	\$135.41	\$149.10	\$150.16
Percent of inspection/systems testing costs recovered	93.80%	85.80%	100.00%	100.00%	95.00%
Total fire loss for commercial structures	\$576,701	\$1,050,700	\$3,922,538	\$2,000,000	\$2,000,000

There were 36,896 total inspection activities conducted by the Fire Inspections and Systems Testing Branches of the Fire Marshal's Office, which is 121 fewer inspections than were conducted in FY2014. This reduction is primarily due to vacancies. A total of \$4,996,109 in revenue was generated for the General Fund from these activities, and represents a cost recovery rate of 100 percent of all direct costs associated with provision of these services. An average of \$135.41 was generated per inspection/systems activity.

This LOB has a goal of a fire loss experience of \$2 million or less in the commercial/industrial/flex spaces the FMO is responsible for inspecting. In FY2015, the County experienced \$3.92 million in fire loss in these occupancy classes. Two fires were responsible for the preponderance of the fire loss; one fire was an accidental fire in the phone battery room of a large office building and one fire was in a mercantile establishment with a significant amount of loss due to smoke and water damage. The total assessed value of the assets protected by this LOB is over \$42 billion, per the Department of Tax Administration (FY2015). This LOB is expected to continue to meet its stated objective of recovering 90-100 percent of its direct costs related to code enforcement.