



**S.C. Division of Fire and Life Safety
2014-2015 Annual Report
Chief Robert O. Polk
State Fire Marshal**

Division of Fire and Life Safety

141 Monticello Trail
Columbia, S.C. 29203
(803) 896-9800

Deputy Director/State Fire Marshal:

Robert O. Polk

The goal of the Division of Fire and Life Safety is to make South Carolina safer by providing programs and services to enhance the quality of life for citizens, visitors, and firefighters. The Division consists of the Office of the State Fire Marshal (Codes and Prevention), the S.C. Fire Academy (Training and Response) and the S.C. Emergency Response Task Force.

Chief Robert O. Polk was appointed by Governor Nikki R. Haley as the State Fire Marshal effective August 1, 2014. Chief Polk was also appointed by the Governor to serve on the State Emergency Response Commission. By S.C. Code of Laws, the State Fire Marshal also serves as the following: ex-officio member on the S.C. Manufactured Housing Board, chairman of the Firefighters Mobilization Oversight Committee, consultant to the Board of Pyrotechnic Safety, and staff support to the Liquefied Petroleum Gas Board.

**SOUTH CAROLINA
STATE FIRE**

The Office of State Fire Marshal is comprised of Licensing and Permitting, Engineering Services, Community Risk Reduction, and Inspection Services.

The S.C. Fire Academy, per S.C. Code of Laws (23-10-10), is operated for the express purpose of educating and training the state's paid, volunteer, and industrial fire service personnel. The Fire Academy also provides leadership, guidance, and services to help the fire service carry out its responsibilities at the local level.

The role of the S.C. Emergency Response Task Force (SCERTF) is to assist local, regional, and state governments in times of need. The Task Force assists by providing subject matter experts, guidance, and on-scene professional resources during disasters or emergencies that overwhelm local resources. The Task Force provides responses to all phases of firefighting, structural collapse, helicopter rescue, water rescue, and hazardous materials incidents. This response can range from sending two specific field experts to providing hundreds of firefighters to assist in a large-scale disaster. In addition, the SCERTF supports LLR's role in emergency support functions within the State Emergency Response Plans and day-to-day operations.

Office of State Fire Marshal

Deputy Director/State Fire Marshal:

Robert O. Polk

The Office of State Fire Marshal has regulatory responsibility to ensure compliance with state fire safety regulations. This is accomplished through inspection activities by deputy state fire marshals in the field, code consultation, and plans review services provided by the Engineering Services section.

Firefighter Registration: This Office is responsible for the registration of South Carolina firefighters. By law, firefighters employed on or after July 1, 2001, must register and complete a name-based criminal records check. In FY 2015, the Office requested and processed 2,605 State Law Enforcement Division background checks. In comparison, 2,736 background checks were performed in FY 2014.



Fire Portal: In order to provide fire department personnel with a streamlined registration system, a user-friendly online database known as the "Fire Portal" currently reports 536 fire departments with nearly 17,300 firefighters. This "one-stop shop," created in 2014, allows fire chiefs (and selected administrators) to electronically submit SLED checks, file mandatory reports, update rosters, and revise Firefighter Mobilization records. Training officers are also able to approve/register firefighters for classes, run selected performance reports, and view a complete training schedule. Once an email is provided for login access, an individual firefighter is able to sign up for a class as well as view a current Academy transcript. Portal usage shows more than 5,100 individual users with 469 (88 percent) fire departments online. The amount of individual users increases by nearly 400 each month.



One Percent Fund: This fund, which is commonly referred to as “one-percent money,” is a one-percent tax collected on fire insurance premiums written in the state. To obtain these funds, fire departments must submit quarterly inspection reports and annual fire equipment certificates to this Office. In 1907, the S.C. General Assembly passed the Firemen’s Insurance and Inspection Fund Act for “the betterment and maintenance of skilled and efficient fire departments within the county.” After reports are received and verified, the qualifying information is provided to applicable county treasurers. The money is then distributed by each county treasurer to qualified fire departments based on the percentage of the total assessed value of the county that constitutes the fire department’s response or coverage area. By law, fire departments must spend one-percent money in one of three categories: retirement and insurance, training and education, or recruitment and retention.



Social Media: In FY 2015, an “SC State Fire” Twitter account was approved by management and created to provide informative updates to those interested in the Division. The account currently has almost 300 followers with the majority being fire departments and chiefs. The Twitter account also allows the Division to follow more than 90 Twitter accounts consisting of South Carolina fire departments, and state and federal agencies.

Volunteer Incentive Program (VIP): Additionally, this Office compiles Volunteer Incentive Program (VIP) certification team reports for “Qualified Rescue Squads” and “HAZMAT Teams” and submits them to the S.C. Department of Revenue. In FY 2015, the OSFM reported 687 rescue squad and 93 HAZMAT team members who meet specific qualifications for the volunteer (VIP) tax deduction. In comparison, in FY 2014, the Office reported 799 rescue squad and 111 HAZMAT team members.

Division Logo: To boost recognition and present a fresh image, a new logo was designed in-house and approved by the Governor’s office. The five-pointed gold star enclosed in a red circle has been in use since May 1, 2015, and replaces the original solid gold star.

Licensing and Permitting

Section Chief:

Ray Hoshall

FY 2015 Statistics

- **135 blasters licensed; 143 blasting permits issued; 231 explosive magazine permits issued; 4 Class I explosive dealer licenses issued; 2 Class II explosive dealer licenses issued**
 The L&P Section verified each blaster was certified to engage in the sale, use, or storage of explosives. Additionally, blasting permits were obtained before anyone was authorized to perform any blasting or to use any explosives for demolishing a structure, and blasting out rock, earth or any other substance or material. Permits were issued for permanent and mobile explosive magazines. Licenses for the sale of explosives were also issued.
- **147 fire equipment companies licensed; 756 employee permits issued**
 The L&P Section verified firms and personnel in the portable fire extinguishers and fixed engineered and pre-engineered fire protection systems business were properly trained. For example, since water spreads most commercial kitchen fires instead of extinguishing them, wet chemical systems are used to provide protection against hot grease and prevent fire from spreading. These wet chemical systems must be properly installed by a licensed company and permitted employee.
- **38 cigarette manufacturers hold FSC certification; 1,195 brand styles of cigarettes certified**
 To reduce the likelihood of cigarettes becoming an ignition source for upholstered furniture, mattresses and bedding, cigarettes sold in South Carolina must meet certain criteria. As each cigarette must be properly marked “FSC,” this Section evaluates manufacturers’ certifications, issues approvals, and performs random testing and compliance inspections.
- **785 companies licensed to provide LP Gas operations; 890 individuals permitted to perform related duties**
 LP gas is a flammable mixture used in heating and cooking appliances and vehicles. This Section utilizes deputy state fire marshals to conduct on-site facility inspections and verify employees are qualified to work with this type of flammable material.

- **250 pyrotechnic operators licensed, and 175 public firework and 28 proximate audience displays permits issued**
Explosions, flashes, smoke, flames, fireworks, and other pyrotechnic-driven effects are often used in the entertainment industry (i.e. concerts, football games, theatrical performances). The L&P Section is tasked with promoting safety of the public and the environment by the effective regulation of this profession to include on-site inspections.
- **1,506 temporary and annual firework retail sales licenses issued and inspections conducted**
Certain times of the year (New Year’s Eve and July 4) are traditionally celebrated by using fireworks, which may be sold and used in South Carolina. This Section is tasked with issuing temporary (90-day) or annual firework stand/store permits. Prior to opening, these stands/stores must be inspected by a deputy state fire marshal.

FY 2015 Staff-Related Information

| Staff Positions | Number of Personnel |
|-----------------------------------|--|
| Chief of Licensing and Permitting | 1 |
| Administrative Assistants | 2 |
| Mailing Address: | 141 Monticello Trail, Columbia, SC 29203 |
| Telephone: | (803) 896-9800 |
| Administrator: | Ray Hoshall Ray.Hoshall@llr.sc.gov |

The following charts provide details pertaining to each Licensing and Permitting licensure group:

| Explosives Control Act / Blasters | |
|---|---|
| Website: | http://www.scfiremarshal.llronline.com |
| S.C. Code of Laws: | 23-36-10, et. seq. |
| Regulation: | 71-8302, et. seq. |
| Licensure Period: | Annually 12/31 |
| Endorsement/Reciprocity Accepted: | No |
| Licensee Population Trend: | Increasing |
| Type of Exam: | State exam on S.C. statutes, rules and regulations and NFPA Codes |
| Licensee Category: | |
| Blasters Licensed (individuals performing blasting operations) | 135 |
| Blasting Permits Issued (specific location permits to blast) | 143 |
| Explosive Magazine Permits Issued (storage of explosive materials) | 231 |
| Explosive Dealers (sellers of explosive materials) | 6 |
| Explosive Magazine Inspections Conducted | 93 |

| Fire Equipment Dealer Licensure | |
|-----------------------------------|---|
| Website: | www.scfiremarshal.llronline.com |
| S.C. Code of Laws: | 23-9-45 |
| Regulation: | 71-8303 et seq. |
| Licensure Period: | Biennially |
| Endorsement/Reciprocity Accepted: | No |
| Licensee Population Trend: | Increasing |
| Type of Exam: | State exam on S.C. statutes, rules and regulations and NFPA |

| Codes | |
|---|-----|
| Licensee Category: | |
| Fire Equipment Company Licenses Issued | 147 |
| Fire Equipment Employee Permits Issued | 756 |
| Fire Equipment Company Inspections Conducted | 27 |

| Reduced Cigarette Ignition Propensity Standards and Firefighter Protection | |
|--|--|
| Website: | http://www.scfiremarshal.llronline.com |
| S.C. Code of Laws: | 23-51-10, et. seq. |
| Licensure Period: | Triennially |
| Manufacturers Holding S.C. FSC Certification | 38 |
| Brand Styles of Cigarettes Certified | 1,195 |

| Liquid Petroleum (LP) Gas Board | |
|---|---|
| Website: | www.llr.sc.gov/POL/LPgas/ |
| Board Established: | 1999 |
| S.C. Code of Laws: | 40-82-5, et. seq. |
| Regulation: | 71-8304, et. seq. |
| Board Member Slots: | 7 (No vacancies) |
| How appointed: | Appointed by the Governor |
| Board Meetings: | At least annually (as called by Chairman) |
| Licensure Period: | Biennially |
| Endorsement/Reciprocity Accepted: | No |
| Licensee Population Trend: | Stable |
| Type of Exam: | State exam on S.C. statutes, rules and regulations and NFPA Codes |
| Licensee Category: | |
| Companies licensed to provide LP Gas Operations | 785 |
| Individuals permitted to perform LP Gas Operations | 890 |
| LP Gas Inspections Conducted | 322 |

| Board of Pyrotechnic Safety | |
|-----------------------------|---|
| Website: | www.llr.sc.gov/POL/Pyrotechnic/ |
| S.C. Code of Laws: | 40-56-1, et. seq. |
| Regulation: | 71-8305, et. seq. |
| Board Member Slots: | 7 (1 vacant position) |
| How appointed: | Appointed by the Governor |
| Board Meetings: | At least annually (as called by Chairman) |
| Licensure Period: | Operators: Biennially |

| | |
|---|---|
| | Retail Sales: Annually Temporary Sales: 90 days from date of issue |
| Endorsement/Reciprocity Accepted: | No |
| Licensee Population Trend: | Increasing |
| Type of Exam: | State exam on S.C. statutes, rules and regulations and NFPA Codes |
| Licensee Category: | |
| Professional Fireworks Related | |
| Pyrotechnic Operators Licensed | 154 |
| Pyrotechnic Trainee Operators Licensed | 96 |
| Public Fireworks Display Permits Issued | 175 |
| Proximate Audience Fireworks Display Permits Issued | 28 |
| Public Fireworks Display Inspections Conducted | 29 |
| Proximate Audience Fireworks Inspections Conducted | 4 |
| Consumer Fireworks Related | |
| Wholesaler/Storage Licenses Issued | 34 |
| Jobber Licenses Issued | 2 |
| Retail Sales Licenses Issued (temporary and annual) | 1,566 |
| Retail Sales Fireworks Inspections Conducted | 1,506 |
| Wholesale/Storage/Jobber Fireworks Inspections Conducted | 2 |

Engineering Services

Section Chief:

David Blackwell, P.E.

The Engineering Services Section provides technical assistance and consultation services to design professionals, state officials, local building and fire officials, contractors, builders, building owners, and the public. Staff is responsible for plan reviews of: buildings, fire sprinkler systems, fire alarm systems, aboveground storage tank (AST) motor vehicle fuel storage and dispensing systems at retail service stations, liquefied petroleum gas (LP Gas) storage tank installations, and other reviews, as necessary, to assist design professionals, other state Authorities Having Jurisdiction (AHJs), local AHJs, and resident fire marshals. Staff also assists other Agency divisions with special projects, research, and development of future regulations and state statutes.

FY 2015 Staff-Related Information

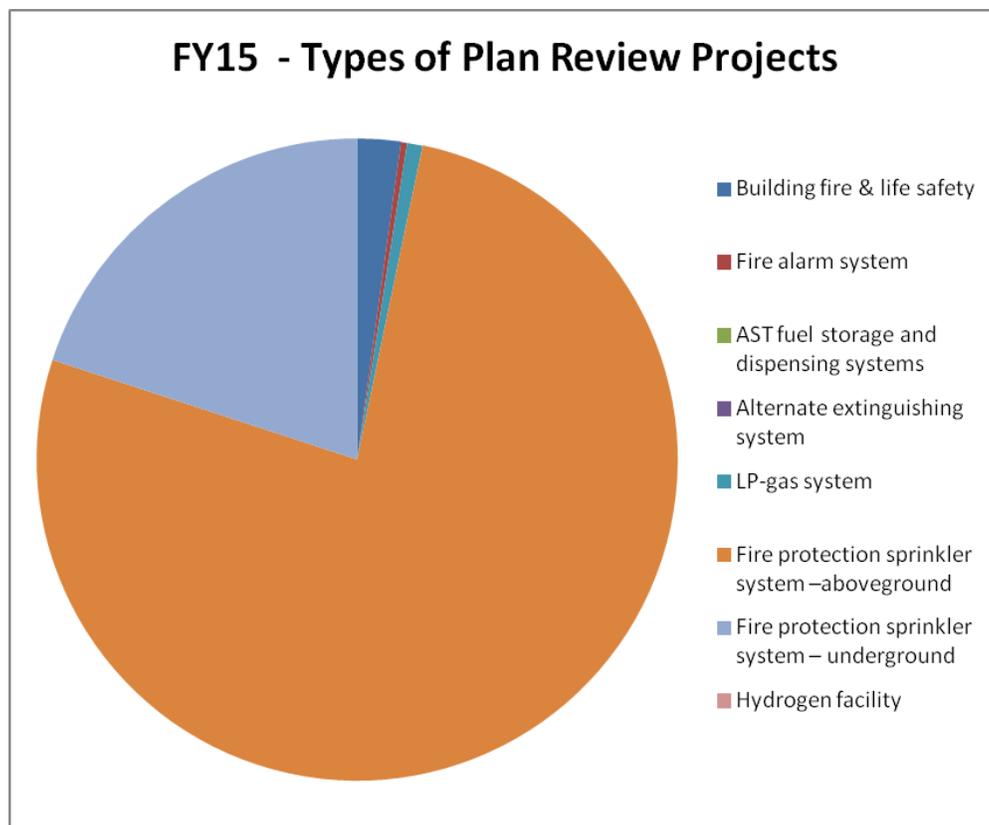
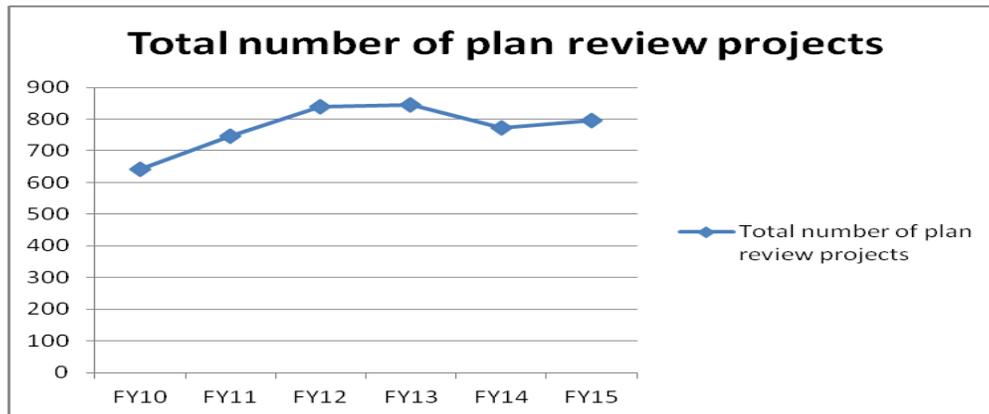
| | |
|---------------------------------|---|
| Staff Positions: | 6 |
| Chief Engineer | 1 |
| Engineer | 1 |
| Associate Engineers | 3 |
| Administrative Assistant | 1 |

FY 2010 – FY 2015 Statistical Information

| TYPE OF PLAN REVIEW | Fiscal Year/Number of Plan Review Projects | | | | | |
|--|--|------|------|------|------|------|
| | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 |
| Building fire & life safety | 14 | 12 | 6 | 6 | 6 | 7 |
| Fire alarm system | 2 | 6 | 5 | 4 | 1 | 1 |
| AST fuel storage and dispensing systems | 0 | 1 | 3 | 3 | 0 | 1 |
| Alternate extinguishing system | 0 | 0 | 4 | 2 | 0 | 0 |
| LP-gas system | 5 | 30 | 35 | 12 | 11 | 9 |
| Fire protection sprinkler system – | 492 | 574 | 641 | 646 | 602 | 648 |

| | | | | | | |
|---|------------|------------|------------|------------|------------|------------|
| aboveground | | | | | | |
| Fire protection sprinkler system – underground | 128 | 121 | 144 | 172 | 149 | 128 |
| Hydrogen facility | 0 | 2 | 0 | 0 | 3 | 1 |
| Total number of plan review projects | 641 | 746 | 838 | 845 | 772 | 795 |

As seen in the table above and graph below, the total number of plan review projects has increased since 2010. It should be noted that while the FY 2015 workload saw a net increase of 23 projects, it reflects a 4 percent increase over the FY 2014 workload. The FY 2015 workload is actually a net increase of 154 projects and a 24 percent increase over the FY 2010 workload.



The chief engineer was appointed by the Governor to serve on the S.C. Building Codes Council per §6-9-63(A)(7) of the S.C. Code of Laws. He also worked with various LLR and OSFM staff to draft revised State Fire Marshal Regulations which were submitted to the legislature and became effective in FY 2015. Among the improvements in the revised regulations were significant changes for foster homes. Those changes were designed to provide appropriate fire safety requirements with certain options to facilitate compliance and assist the South Carolina Department of Social Services in its goals to reduce obstacles to child placements. Staff continues to participate in a State Design Professionals Group and relate and discuss matters of common interest to State employees in the design and construction industry, including legislation, laws, regulations, codes, standards, and interpretations. The chief engineer

also works with the Board of Registration for Professional Engineers and Land Surveyors to clarify the practice of engineering with regards to fire protection systems; to clarify the application of building codes and their requirements; and, to advise the Board on proposed revisions to its Practice Act.

The chief engineer and staff:

- Participated in the Building Codes Council and International Code Council code development processes.
- Continued to assist the State Department of Education on various matters related to fire and life safety in public schools.
- Continued to grow and develop in their positions benefitting from multiple formal training and educational opportunities.

Staff continued to participate in select Board meetings and, when appropriate, provide Boards with relevant information and address matters of concern.

Lastly, to improve plan review services, staff identified and investigated multiple technology solutions. Some of these solutions are scheduled to be implemented in FY 2016 to improve the speed and accuracy of electronic plan reviews.

Community Risk Reduction

Section Chief:

Tim Wojcik

The Office of State Fire Marshal is responsible for programs designed to educate and enhance public awareness of fire safety and community risk reduction efforts. The Community Risk Reduction (CRR) team manages the Fire Marshal's initiatives surrounding community risk reduction, and data management. This section also continues to coordinate the Community Loss Education and Response (CLEAR) Team. Due to staffing changes, CRR and Inspection/Field Services were consolidated into one section, led by the new Chief Deputy State Fire Marshal. Due to a broadening of the scopes of both sections, CRR was returned to being an independent section of the Office of State Fire Marshal.

Major program areas include:

- Public Fire and Life Safety Education Delivery
- Data Collection and Management
- Fire Incident Research and Investigation
- Major Incident Support
- Smoke Alarm Installation
- Quarterly Public Fire and Life Safety Educator Training

To provide fire and life safety programs for school and family audiences, the Division and EdVenture Children's Museum continue a successful partnership. This arrangement allows LLR to provide personnel and program support for Dalmatian Station and Home Safe Home (a fire safety exhibit) within EdVenture. State Fire staff members are responsible for program development, delivery, and outreach activities. In FY 2015, risk reduction messages were shared with 1,978 adults and 4,681 children.

The CLEAR team is comprised of three duty chiefs (rotating on a weekly basis), a statistical and data analyst, and the State Fire Marshal. Every fatal fire in South Carolina is researched by a duty chief. Afterwards, to develop programs to better address South Carolina's fire fatality problem, aggregate information is shared quarterly with the team.

To provide ongoing, high-quality training to community risk reduction and fire and life safety educators, in FY 2015, CRR established Fire and Life Safety Educator's Quarterly training sessions. These six-hour sessions are interactive and often include subject matter experts from other disciplines. In addition to helping fire departments achieve maximum ISO scale credit, CRR provides customized training each quarter to meet the needs of educators.

Community Risk Reduction team members continue to create and deliver custom educational programs. In FY 2015, CRR delivered "Forgotten Valor-The Legacy of Captain William Peterson" to five audiences, including the 2015 Fire Rescue Conference in Myrtle Beach. "Tactical Fire Prevention" was also developed and piloted in FY 2015 with more deliveries in 2016.

In FY 2015, the Community Risk Reduction Working Group was formed with the goal of advising and collaborating with the Office of State Fire Marshal in regard to Community Risk Reduction efforts and campaigns. Members of the working group include representatives from the S.C. Firefighters' Association, the S.C. EMS PIER Team, S.C. FALSE, S.C. Fire Marshals' Association, American



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Red Cross, S.C. Office on Aging, S.C. Office of Rural Health, Palmetto State Teachers' Association, EdVenture Children's Museum, and S.C. Safe Kids.

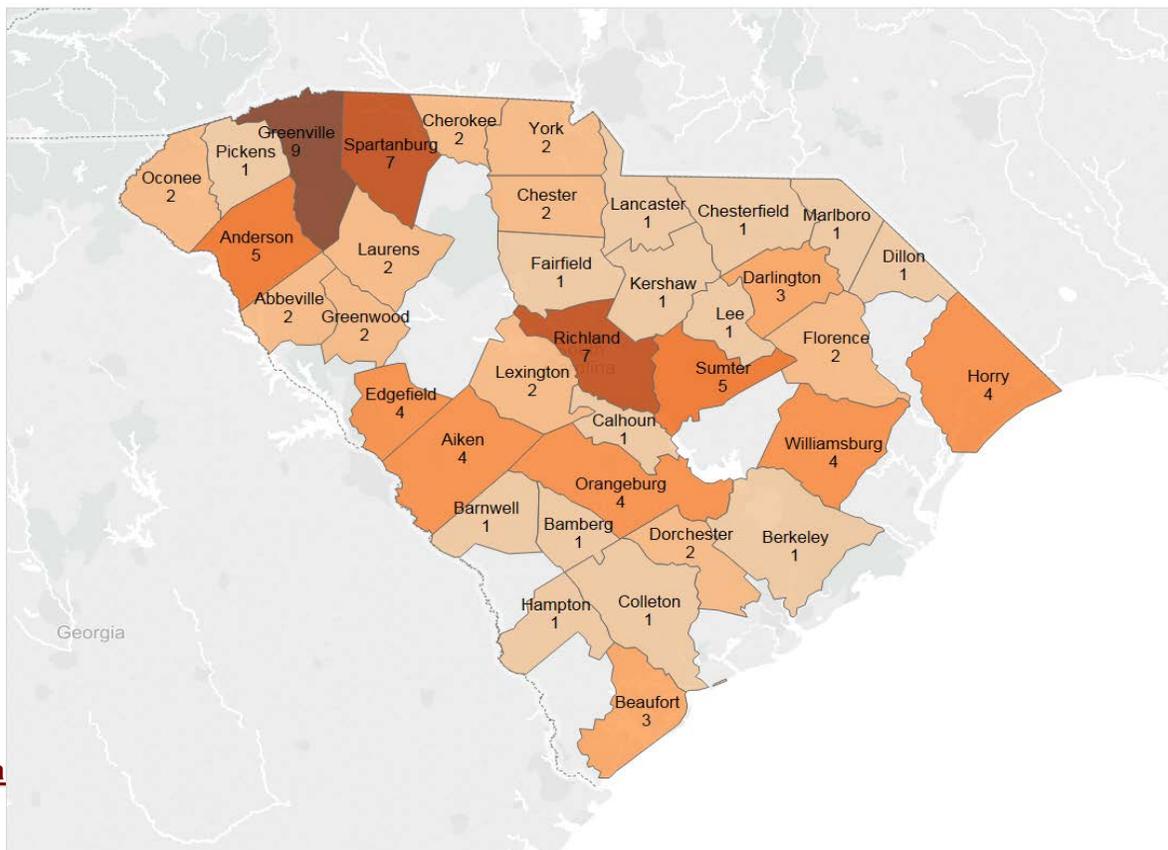
State law requires the Fire Marshal's Office to collect and analyze data on fire fatalities. In FY 2015 (chart below), there was a slight increase in the number of fire deaths (93). The average age was 52 years and the majority of the fire victims (60 percent) were older than 50. Additionally, December 2014 was the deadliest fire fatality month with 18 victims, compared to one fatality in September 2014.

| South Carolina Fire Fatalities | | |
|--------------------------------------|---------------------------|----------------------------|
| | FY 2014 | FY 2015 |
| Number of Fatalities | 89 | 93 |
| Average Age | 51 years | 52 years |
| Percent older than 50 years | 64 percent (57 victims) | 60 percent (56 victims) |
| Percent between 20-50 years | 22 percent (20 victims) | 27 percent (25 victims) |
| Percent younger than 20 | 13 percent (12 victims) | 12 percent (11 victims) |
| Percent Male | 61 percent | 66 percent |
| Number of Fatal Incidents | 58 | 76 |
| Number of Multiple Fatalities | 15 incidents | 15 incidents |
| Highest Fatalities by Month | March 2014 (13 victims) | December 2014 (18 victims) |
| Lowest Fatalities by Month | May 2014 (3 victims) | September 2014 (1 victim) |
| Number of Residential Fires | 55 residential fatalities | 78 residential fatalities |

Data collection is accomplished through the National Fire Incident Reporting System (NFIRS) and used by South Carolina fire departments. After a fire department responds to an incident, a statistical report is completed. These statistics are analyzed by county, cause, presence of a smoke alarm, age of fire death victim, and type of structure. This statistical information represents more than half of the state's population, which is provided by 400 participating fire departments through the Fire Incident Reporting System.

The map below reflects FY 2015 fire fatalities by county. The highest was Greenville County with nine fatalities, and 36 counties had

FY2015 South Carolina Fire Fatalities



at least one fire fatality.

Although not reflected on the map, 29 fatalities occurred in homes with no smoke alarm present. CRR records indicate 29 citizens died while attempting an escape, and another 20 while sleeping. As a result, the Division has continued two safety campaigns - "Get Out and Stay Out" and "Shut the Door."

There were 274,644 incidents reported accounting for a property loss of more than \$155 million. The Division's CLEAR Team responded and assisted fire departments with many of these fire fatalities and large loss fires.

Data management programs continue to expand beyond simple maintenance of National Fire Incident Reporting Systems. In FY 2015, a more proactive approach was utilized to present office data to the public via email and the Agency's website. Data management continues to be involved in fire service-related research. CRR has the ability to assist fire departments with data analysis, GIS mapping, and quality control. In FY 2015, CRR delivered on-site data training at 41 fire departments, reaching 770 individual fire department members.

CRR and the University of South Carolina's Hazards and Vulnerability Research Institute continue to work together to improve data quality for both parties, enabling the Division to reach the highest risk populations more effectively for education, prevention, and installation efforts. Data determination will assist South Carolina fire departments for needs assessments and FEMA grant assistance opportunities.

The sample SCFIRS report below (Colleton County Fire Rescue) is an example of efforts to support local fire departments. A fire department can compute the total amount of calls per year, the total fire dollar loss, number of structure fires, and average response times as well as check the quality of their data.

SCFIRS Grade Breakdown | Monthly Detail and Incident Counts

SELECT your FD
Colleton, Colleton County Fire Rescue

SELECT year
 2014
 2015

Percent of incidents reported containing a particular error →

Call 803-896-1250 for details on this score and how you can improve your score through a training session at your department.

Colleton, Colleton County Fire Rescue 2015 SCFIRS Grade

A=97+ | B=94-97 | C=90-94 | D=85-90 | F=85 and below

| | |
|---|--------|
| SCFIRS Grade | 99.527 |
| State Rank (out of 475 FDs) | 1 |
| # of Incidents reported | 3,611 |
| Months with incidents reported | 6 |
| Percent of reports invalid | 0.00% |
| Percent of fires with dollar loss not estimated | 2.33% |
| Percent fires unresolved | 0.63% |
| Percent 'other' incident types used | 3.10% |
| Percent 'other' property types used | 1.27% |
| Percent with inaccurate Apparatus & Personnel counts | 18.22% |
| Percent reports with imprecise times (seconds not recorded) | 0.06% |
| Percent wrong EMS incident type (311 vs. 321) | 0.00% |
| Percent no narrative | 0.06% |
| Percent of fires with controlled time blank | 0.00% |
| Percent 'other' actions taken used | 1.94% |
| Percent 'other' area of origin used | 0.00% |
| Percent 'other' heat source used | 1.25% |

Undo Redo Reset | + a b | e a u | 310 views | Share Download

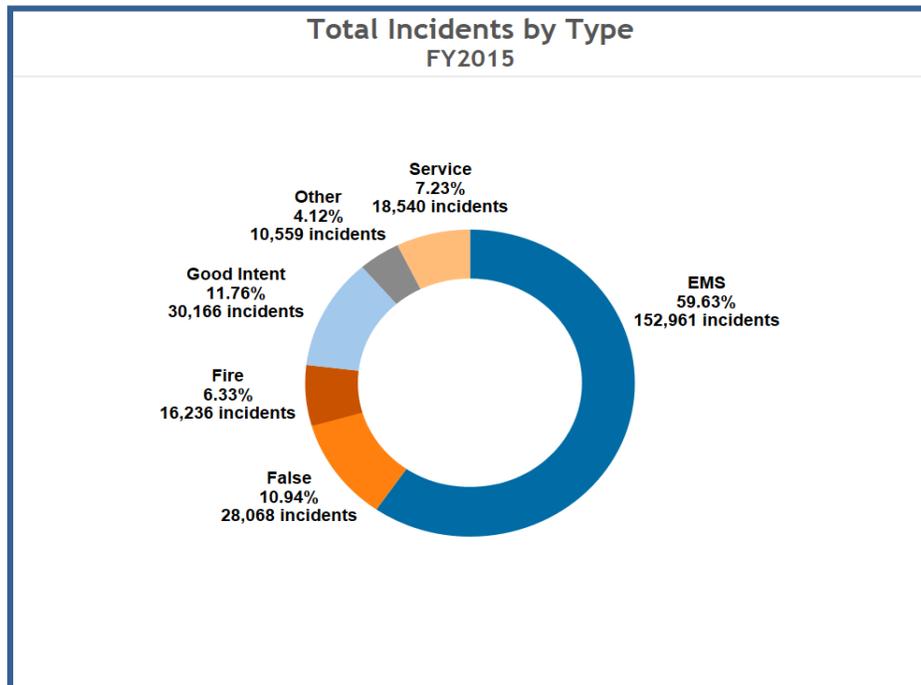
| | Jan | Feb | Mar | Apr | May | Jun | Jul |
|--------------------|----------|---------|----------|---------|----------|----------|-----|
| Incident Count | 584 | 537 | 618 | 560 | 639 | 673 | 0 |
| Mutual Aid Calls | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 1st Due Str. Fires | 10 | 9 | 9 | 5 | 7 | 4 | 0 |
| Avg. Response Time | 08:49 | 08:49 | 08:42 | 08:24 | 08:34 | 08:45 | |
| SCFIRS Grade | 99.538 | 99.260 | 99.610 | 99.630 | 99.576 | 99.628 | |
| Fire Dollar Loss | \$296.0K | \$65.6K | \$338.5K | \$17.0K | \$299.7K | \$508.9K | |
| Invalid Reports | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SELECT your FD
 Colleton, Colleton County Fire Rescue

SELECT Year
 2014
 2015

Undo Redo Reset + a b | e a u 310 views Share Download

The chart below reflects a percentage of Total Incidents by Type. For example, EMS incidents are almost 60 percent of calls and nearly 11 percent are false alarms. Six percent of fire-related incidents (16,236 fires) caused more than \$148 million in damages (property and contents). Of that amount, nearly \$5.6 million is attributed to intentionally ignited fires.



On the other hand, the S.C. Fire Incident Reporting System (SCFIRS) also calculates the total of property and contents saved, average percent of property saved by department, and the average dollar loss by department type. The average dollar loss per structure fire was \$46,000. While the total saved by fire departments was nearly \$1 billion.

Each year, fires with high loss are tracked statewide. Significant fires with property loss estimates greater than \$1 million have an enormous impact on communities and local economies. The chart below reflects the significant fires listed by the date of the incident, city, property type, and dollar loss.

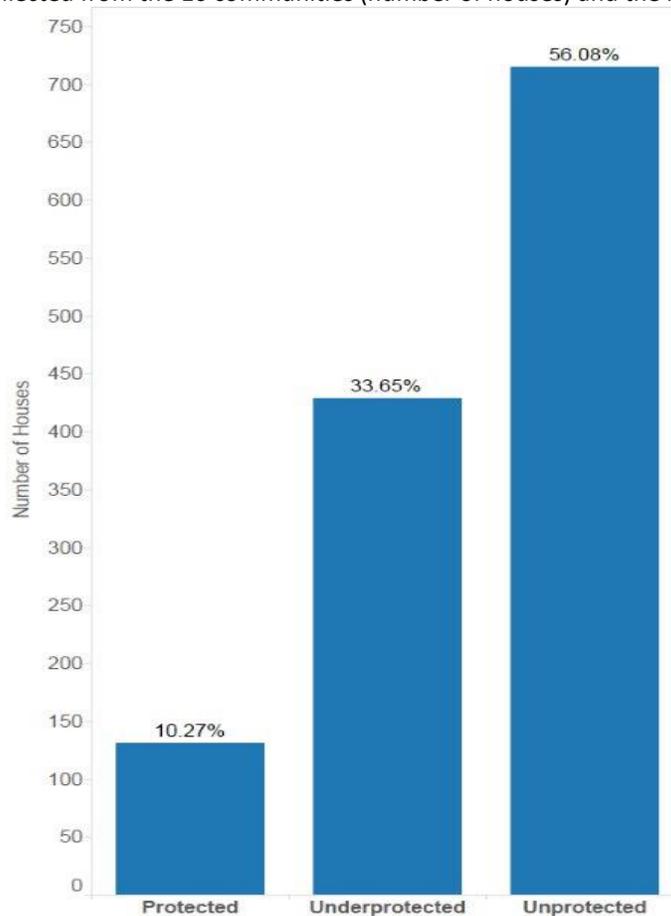
| Date | City Name | Property Type | Dollar Loss/Millions |
|-------------------|--------------|--|----------------------|
| August 9, 2014 | Wando | Gas distribution, pipeline, gas distribution | 25.0 |
| December 20, 2014 | Spartanburg | Multifamily dwellings | 2.12 |
| December 31, 2014 | Columbia | Department or discount store | 3.00 |
| January 10, 2015 | Myrtle Beach | Storage, other | 1.40 |
| January 13, 2015 | Myrtle Beach | Professional supplies, services | 1.40 |
| March 4, 2015 | Spartanburg | Educational, other | 1.00 |

Fire Prevention Grant

10

Collected data shows 1,826 citizens were living in homes with no working smoke alarms and 1,123 were in homes with less than adequate smoke alarm protection. Only 368 citizens were completely protected. More than half (59 percent) of renter-occupied homes were completely unprotected.

The chart below shows the data collected from the 16 communities (number of houses) and the level of protection.



FY 2015 Staff Related Information

| Staff Positions | Number of Personnel (8) |
|---|-------------------------|
| Community Risk Reduction Program Manager | 1 |
| Statistical and Data Analyst | 1 |
| Curriculum Coordinator | 1 |
| Community Risk Reduction Program Assistants (Temp/PT) | 5 |

Emergency Medical Services Training

Section Chief:

Tim Wojcik

The EMS Training Section was created in FY 2015, reporting directly to the State Fire Marshal. According to the S.C. Department of Health and Environmental Control (DHEC), more than 50 percent of credentialed pre-hospital providers (EMT-B, EMT-I/A and EMT-P) associate primarily with a fire department. The EMS Section was formally established based on the request of several stakeholders, including many fire departments and the S.C. Firefighters' Association. This section currently shares a program manager with the Community Risk Reduction Section.

The EMS Section continues to be involved in the legislative process concerning DHEC Regulation 61-7. The EMS Section coordinates CPR and First Aid classes for the Academy recruit program and, in FY 2016, will offer several catalog courses. There were 173 students trained in CPR, First Aid, or Blood Borne Pathogens. An Emergency Medical Responder (EMR) class was held with 11 students.

The EMS Section was a key player involved with the EMT-Basic Competition held at the 2015 Fire-Rescue Conference in Myrtle Beach, S.C. Additionally, the groundwork was laid for developing several training programs and the Section began to compile basic instructional supplies and equipment for anticipated course offerings in FY 2016.

An EMS Programs Working Group was established to advise and support the development of EMS training programs. The working group has representation from the South Carolina Firefighters' Association, EMS Association, EMS Educators Association, Private Ambulance Providers Association, and the Carolinas Hospital System.

FY 2015 Staff Related Information

| Staff Positions | Number of Personnel (3) |
|--|-------------------------|
| EMS Programs Manager (Shared with CRR) | 1 |
| Medical Control Physician (Temp/PT) | 1 |
| Program Assistant (Temp/PT) | 1 |

Code Enforcement and Fire Marshal Training

Section Chief:

Shawn Stickle

This Section performs fire and life safety inspections for state buildings, public schools, fire equipment dealers, outdoor and indoor firework displays, Liquefied Petroleum gas, explosive magazines, and contractual obligations. It also provides fire marshal training and certification to Resident Fire Marshals certified in accordance with S.C. Code of Laws 23-9-30.

Although there was a slight increase in the total number of inspections in FY 2015 (chart below), they remain lower than previous years.

Fire and Life Safety Inspection Statistical Information

| Inspection Statistic | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
|--------------------------------------|---------|---------|---------|---------|---------|
| Inspections Per Deputy SFM (average) | 904 | 970 | 947 | 840 | 873 |
| Inspections Completed by Deputy SFMs | 14,468 | 14,549 | 11,361 | 10,923 | 11,355 |
| Total Violations Cited | 9,223 | 7,804 | 4,284 | 5,265 | 7,875 |

The average inspections, per deputy (includes inspections by senior deputy state fire marshals and accounted for two, six-month vacancies), remain in line with previous years.

This Section focuses on conducting fire and life safety inspections throughout the state in various occupancies and conducting specialized inspections related to facilities obtaining state licenses or permits from the Office of State Fire Marshal and other state agencies. The following charts reflect "Inspections, Violations, and Hours Spent by Inspection Cause" and "Top Five Inspection Types."

FY 2015 Inspections, Violations, and Hours Spent by Inspection Cause

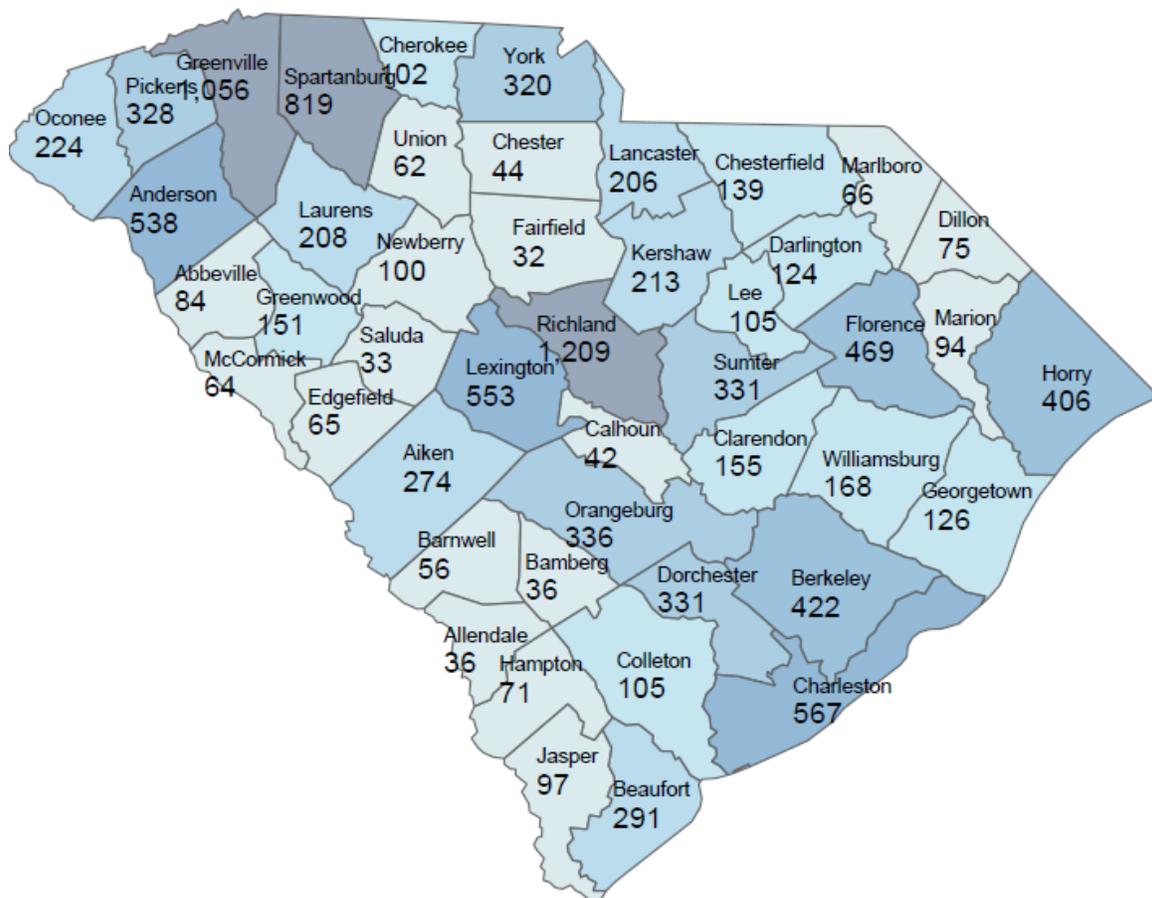
| Inspection Cause | No. of Inspections | New Violations | Hours Inspecting |
|--------------------|--------------------|----------------|------------------|
| Complaint | 127 | 98 | 104 |
| General | 07 | 03 | 10 |
| Periodic | 1,381 | 2,755 | 1,751 |
| Permit | 1,681 | 2,062 | 1,028 |
| Re-inspection | 2,356 | 294 | 1,099 |
| Requested | 5,784 | 2,635 | 3,180 |
| Grand Total | 11,336 | 7,847 | 7,172 |

FY 2015 Top Five Inspection Types

| Inspection Cause | No. of Inspections | New Violations | Hours Inspecting |
|---------------------------|--------------------|----------------|------------------|
| Foster Homes | 4,848 | 1,817 | 2,117 |
| Schools | 1,323 | 2,498 | 1,819 |
| DDSN facilities | 1,120 | 354 | 501 |
| Firework Stands/Stores | 996/460 | 1,172/178 | 373/200 |
| Supervised Living Program | 484 | 57 | 156 |

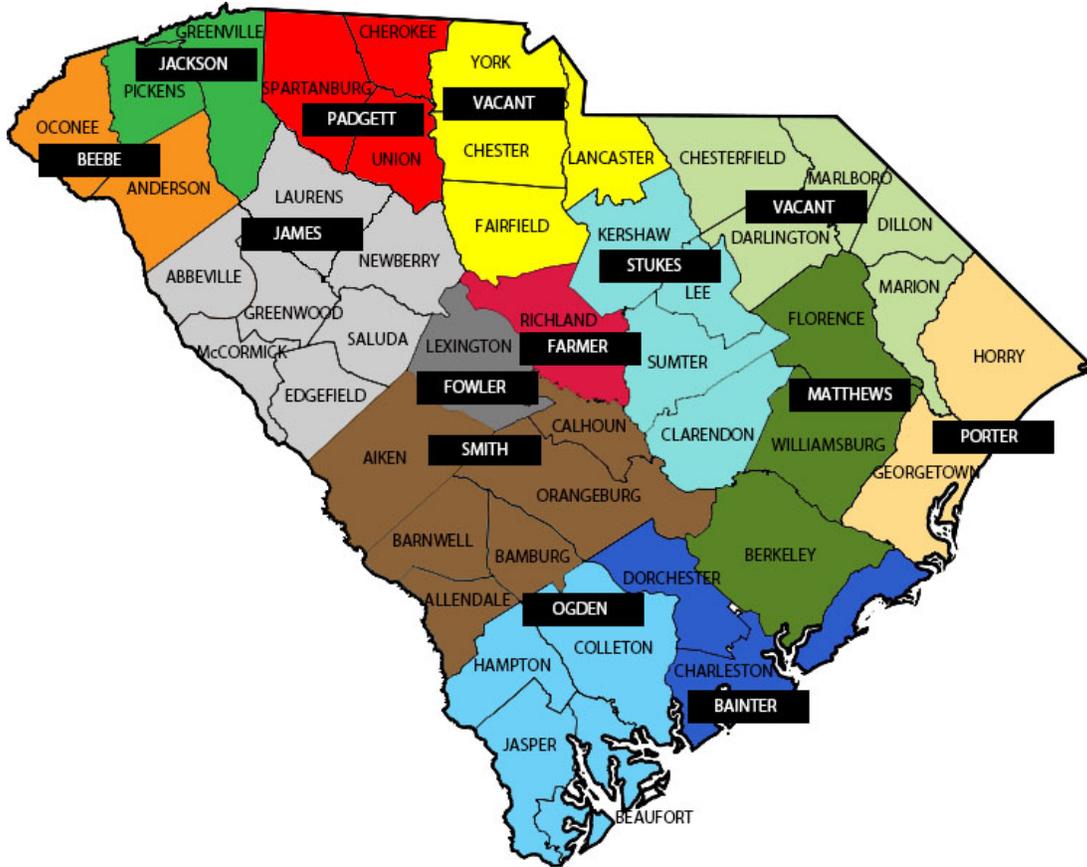
FY 2015 State Fire Inspections – Total Inspections per County

The highest number of inspections occurred in Richland (1,209), Greenville (1,056), and Spartanburg (819) counties. The map below shows the total number of inspections per county.



Deputies also assist in investigations regarding licensees and provide technical consultation to Local and State Authorities Having Jurisdiction (AHJ) including resident fire marshals. Deputies reside in various counties throughout the state and are typically assigned to a territory consisting of multiple counties (see map).

Deputy State Fire Marshal Regional Map



There were 40 fire marshal-related courses delivered to 1,614 students, composed of design professionals, building officials, and 655 active resident fire marshals performing inspections in their local jurisdictions. These courses are delivered at the Academy, and regionally throughout the state, and provide required continuing education hours and a mechanism to improve statewide consistency of code interpretation and enforcement.

FY 2015 Fire Marshal Training and Certification

| Fire Marshal Training and Certification | FY14 | FY15 |
|--|-------|-------|
| Initial Fire Marshal Training Attendees | 75 | 76 |
| Fire Marshal Quarterly Trainings | 24 | 33 |
| Quarterly Fire Marshal Training Attendees | 1,194 | 1,375 |
| Number of Certified Resident Fire Marshals | 620 | 655 |

The training and certification courses also increase the quality and consistency of inspections statewide and improve fire and life safety conditions, reducing fire fatalities. State Fire became an International Code Council (ICC) Preferred Education Provider, and students receive ICC continuing education units for national certification requirements at State Fire.



FY 2015 Staff Related Information

| Staff Positions | Number of Personnel (15) |
|-----------------------------------|--------------------------|
| Chief Deputy State Fire Marshal | 1 |
| Senior Deputy State Fire Marshals | 3 |
| Deputy State Fire Marshals | 11 |

State Fire Academy

**141 Monticello Trail
Columbia, South Carolina 29203
(803) 896-9850**

Superintendent:

Ken Kerber, Assistant State Fire Marshal

The Fire Academy's mission is to provide statewide training for South Carolina fire service personnel: paid, volunteer, airport crash rescue firefighters, industrial fire brigade, and other emergency response personnel. Through more than 200 different courses, and the ability to customize programs, the South Carolina Fire Academy provides basic and advanced training for firefighters, fire officers, instructors, and fire department support functions, which include public fire education, fire prevention, inspections, and fire investigations.

The Fire Academy offers training to in-state firefighters, out-of-state firefighters, non-member "Open Enrollment" students, Boy Scouts of America "Explorer, Learning for Life," and Junior Firefighter Programs for students 16 and 17 years old. The Fire Academy also provides training to local EMS, police, emergency management, and rescue squad personnel.

Fire Academy training is based upon the National Fire Protection Association (NFPA) standards and S.C. OSHA regulations. The Academy also focuses its programs on the Fallen Firefighters Foundation's 16 Life Safety initiatives and its "Everyone Goes Home" program. The "Everyone Goes Home" program focuses on firefighter safety and reducing the number of line-of-duty deaths and injuries.



After successful completion of a self-assessment and site visit, the Academy received a five-year reaccreditation from the *International Fire Service Accreditation Congress* (IFSA). The Academy was issued accreditations for 18 fire service occupational levels.

For the first time, the Academy also applied for and received accreditation from the *National Board on Fire Service Professional Qualifications* (Pro Board) after completing a self-assessment and site visit. The initial accreditation from Pro Board was issued Jan. 15, 2015, for 16 levels. Accreditation through IFSA and Pro Board validates the Academy's certification testing as having met the rigors of review and ensures it meets national standards. This accreditation also ensures uniformity of qualifications which, in turn, allows students trained and tested at the Academy more mobility to/from other accredited states.

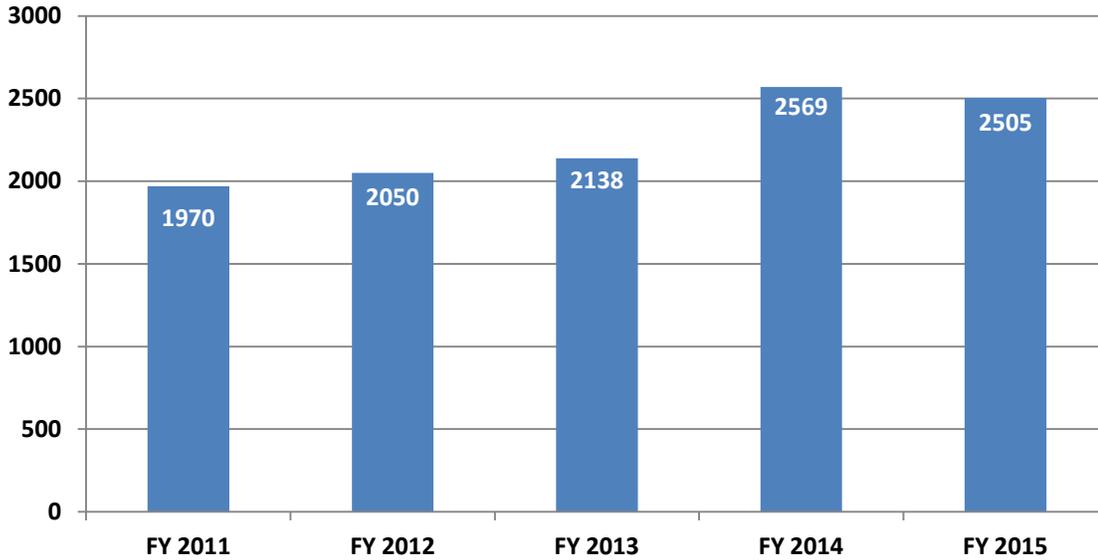
Throughout the year, the Academy provides a minimum of four on-site Firefighter Recruit programs. The number of programs conducted are based on department and student demand. The eight-week program requires each recruit to reside at the Academy by lodging in an on-site fire station and adhere to a strict instruction schedule. If successful, each recruit achieves nine Academy certificates, including National Accredited Firefighter I and Firefighter II.

In FY 2015, the Academy provided four fire recruit programs and 83 (out of 87) students successfully completed training. Recruits were from 62 departments in South Carolina. Five students were from two foreign countries.

South Carolina has 536 fire departments with more than 17,300 firefighters. In FY 2015, across the state, the Academy operated and provided 342 days of training. The Columbia site was open 309 days during this same time period (compared to the state employee work year of 247 days). The charts listed below reflect a five-year perspective of the total number of training programs (courses) provided and students attending and completing the courses.

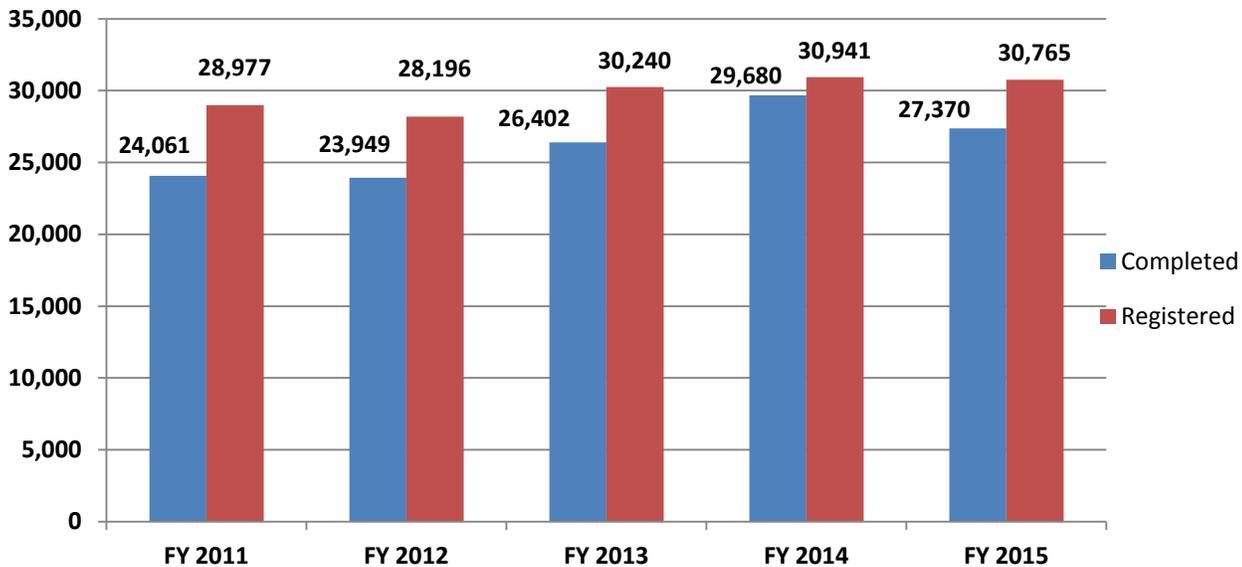
Total Number of SCFA Training Programs (per Fiscal Year)





For FY 2015, the Academy provided 2,505 training programs for 30,765 students registered, and 27,370 successfully completed students. The table below represents a five-year perspective for the total number of registered and completed students during FY 2015.

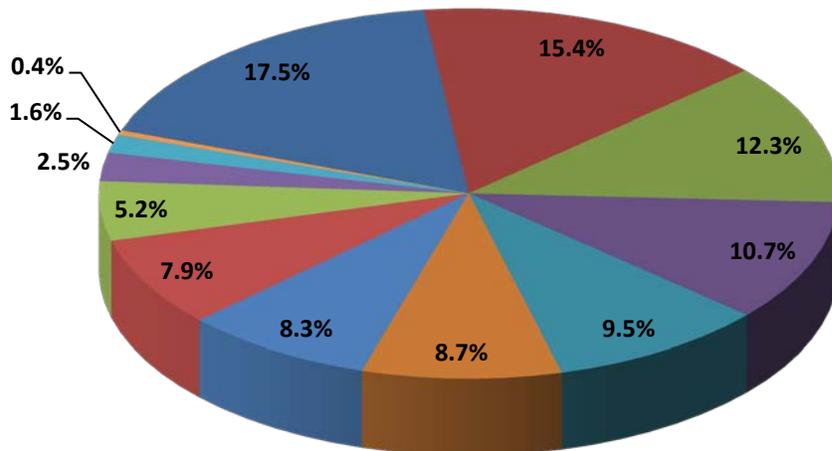
Total Number of SCFA Registered and Completed Students (per Fiscal Year)



To meet the needs of those unable to commit to a traditional classroom environment, and to provide an alternative training environment, the Academy also provided more than 6,700 students (6,000 students in FY 2014) with online independent learning, hybrid, and blended learning programs. The online classroom is designed to provide knowledge to the students who take these programs. However, these are not captured as “completed students.” As such, please note many of these students are not captured in the above chart.

The following chart reflects the percentage of types of training courses provided to the state’s fire service members. For example, in FY 2015, “firefighting” was 17.5 percent and “officer” related training totaled 15.4 percent of classes.

Distribution of Courses



| | |
|--------------|-------|
| Firefighting | 17.5% |
| Officer | 15.4% |
| Instructor | 12.3% |
| Haz-Mat | 10.7% |
| Seminars | 9.5% |
| Cert Test | 8.7% |
| Rescue | 8.3% |
| Driver Ops | 7.9% |
| Industry | 5.2% |
| ARFF | 2.5% |
| Fire Marshal | 1.6% |
| Medical | .04% |

The South Carolina Fire Academy is comprised of the following areas of operations and support:

Resident Training

Program Supervisor:

Lenny Busby

Resident training is responsible for any activity on the Academy's main campus, as well as marketing and providing all industrial and aircraft rescue firefighting (ARFF) courses. The Academy's Columbia site provided facilities for 3,899 guests who attended 103 meetings and conferences.

Specifically, in FY 2015, the Academy:

- Provided 1,006 courses for 12,114 attending students. Specifically, the Academy provided training to:
 - 9,882 students with municipal training in 814 classes
 - 1,645 students with industrial training in 130 classes
 - 587 students with aircraft rescue training in 62 classes
- Hosted its first HAZMAT weekend training event with 12 courses conducted for 84 students. The weekend event included nine vendors who were present to support the school and students.
- Conducted its 32nd annual Southeastern Fire School with 14 classes for 336 students, 150 explorer competition students, a BBQ cook off, and the support of 20 vendors. SCFA provided each attendee with a 20th anniversary challenge coin.
- Supported and worked with the State Industry emergency brigade working group, and toured many industrial facilities.
- Assisted the S.C. Firefighters' Association by providing audio-visual equipment and setting up training programs for the Fire Service Improvement Conference and the annual Myrtle Beach conference.
- Reoccupied the Academy fire station and installed new HVAC, furniture, and appliances.
- Supported field programs delivering support trailers and equipment 370 times across the state totaling 73,262 truck miles.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 5 | 2 |



Regional Training

Section Chief:

Phillip Russell

Regional training is the key to the delivery of Academy courses to fire service customers. A majority of courses are conducted in the regions at local fire departments. Five regional offices are located throughout the state and work continuously to promote and

provide training programs and services to fire service customers. In FY 2015, staff attended 534 fire department meetings. The average cost per student was \$36.84.

Additionally, these offices:

- Trained 18,651 attending students in 1,499 programs.
- Reduced by 65 percent the number of classes canceled in FY 2015, compared to FY 2014. This occurred through better marketing, communication, and the addition of in-house instructors to meet fire customer needs.
- Increased the number of student retests. This is due to a new retest policy.
- Increased course offerings and support through the addition of new programs such as S.C. Basic Fire and Emergency Responder (1700), Career and Technology Center courses, Chief courses, and others.
- Opened a satellite office in Aiken, Fire Station No. 5, for Region 6.
- Formalized the Accelerated Course Orientation and Evaluation process for statewide delivery to increase local instructor resource for Academy training.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 7 | 1 |

Instructional Design

Program Supervisor:

Rick Dunn

Instructional Design develops curriculum, audio-visual materials, and online training required for statewide delivery.

In FY 2015, this Section:

- Provided more than 6,700 students with online, hybrid, or blended-learning training.
- Implemented 12 new or updated curriculum packages to include Hazardous Materials Technician and Fire and Life Safety Educator I.
- Completed the S.C. Basic Fire and Emergency Responder (1700) “hand-off” training program developed for rural volunteer firefighters.
- Partnered with the South Carolina Energy office to produce an online “Photovoltaic 101” class.
- Partnered with National Fire Academy to release national training programs to include the Leadership series and ICS and Resource Management for the Fire Service.
- Updated online training platform for mobile device delivery.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 4 | 6 |

Accreditation, Testing, and Certification

Program Supervisor:

Rick Dunn

Accreditation and Testing is responsible for managing the Fire Academy’s IFSAC (International Fire Service and Accreditation Congress) and Pro Board (National Board on Fire Service Professional Qualifications) Certification and Accreditation programs for the 18 areas of curriculum offered for national certification. This Section also manages the Equivalency and Reciprocity Review Program. In FY 2015, there was a 76.6 percent passing rate on IFSAC exams, an increase of 2.6 percent from the previous year.

This Section also:

- Provided 3,608 IFSAC certificates to students who successfully completed third-party certification testing (an increase of 724 certificates issued).
- Issued 297 reciprocity and 301 equivalencies requests.
- Successfully completed reaccreditation for IFSAC and initial accreditation for Pro-Board.
- Improved equivalency and reciprocity for out-of-state and in-state equivalency program, allowing more local training credit to include the 1700 program.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 1 | 2 |

Administration

Program Supervisor:

Phillip Russell

Administration performs Resident and Regional registrations, course confirmations, resident course billing, dorm and meal coordination, transcript updates, and issues a certificate for each student completing a Fire Academy course (except IFSAC / Pro Board certifications).

In FY 2015, this Section:

- Processed 2,505 course packages for classes and testing.
- Registered, created, and mailed certificates and billed 27,370 successful completed students.
- Maintained a schedule of 12,114 student meals and 5,344 student dorms for on-site delivered programs.
- Moved the Procurement and Finance office to the Fire Marshal’s building.
- Specified and secured a “Point of Sale System” for the cafeteria and store.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 3 | 0 |

Maintenance

Interim Administrator:

Jerry Griggs

The facilities maintenance team provides maintenance and janitorial services for the 208-acre site, all buildings, systems, props, support equipment, trailers, and vehicles.

In FY 2015, this Section:

- Provided maintenance and janitorial support to 120,000 square feet of office space.
- Provided maintenance and support to training simulation props.
- Provided maintenance and support to nine fire suppression apparatus, all owned vehicles, and 40 training support trailers.
- Replaced the cafeteria industrial water heater.
- Arranged for painting and upgrades to the Fire Station, US&R building, and cafeteria.
- Upgraded the HVAC system for classrooms 103 and 104.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 3 | 1 |

Cafeteria, Dormitory, and Retail Store

Coordinator:

Curtis Jermstad

Feeding and lodging is part of the package the Academy provides to on-site customers. The cafeteria staff furnishes meals and dormitory rooms to support site operations and operates the Academy’s retail store.

In FY 2015, this Section:

- Operated 286 days providing 22,202 meals to students, staff, walk-in customers, and inmates.
- Installed TVs to enhance cafeteria environment.
- Worked diligently in creating a request for service proposal for a cafeteria contractor.
- Modernized and increased the retail store.
- Offered new products to customers, resulting in \$50,025 in sales.
- Provided 4,221 dormitory rooms for 5,344 students.

| Number and Types of Employees | |
|-------------------------------|-----------|
| Full-Time | Part-Time |
| 2 | 0 |

Staff also assisted with booth and store management during the annual S.C. Firefighters’ convention in Myrtle Beach.

Division of Fire and Life Safety - S.C. Emergency Response Task Force: Firefighter Mobilization and Urban Search and Rescue

Section Chief:

Daniel McManus, Asst. State Fire Marshal

Under the State’s Emergency Operations Plan, the Fire and Life Safety Division is the lead coordinator for Emergency Support Function (ESF) 9 – Search and Rescue and co-coordinators for ESF 4 – Structural Firefighting, ESF 10 – Hazardous Materials, and specializes in Flood/Swift Water Rescue, Helicopter Rescue and Hazardous Materials Incident Support. The Section leads many established programs to accomplish this one-of-a-kind “all-hazard” tiered emergency response. The program has more than 7,750

registered firefighters and more than 220 participating fire departments with response to seven activations in FY 2015 and 53 in its lifetime.



The S.C. Emergency Response Task Force provides initial and long-term responses to natural and man-made disasters. The program’s primary focus is to provide immediate resources to local and regional fire service agencies that would otherwise not be able to support themselves. This nationally recognized program has developed into a best practice model. This marks the sixth successful year of the State US&R Task Force partnering with the S.C. National Guard to offer a statewide helicopter rescue program. This asset is one of few in the country, and provides this state with air rescue capability.

To recruit and educate potential volunteers, in FY 2015, a large interactive booth was manned during the annual S.C. Firefighters’ convention in Myrtle Beach. More than 1,300 potential volunteers, and their family members, were able to experience and learn more about a “team deployment.”

The chart below shows there was a 33 percent increase in the average number of hours a volunteer contributes to the program (from 78.5 to 104.3 hours). Additionally, team members had slightly less training and exercise opportunities from 184 in FY 2014 to 159 in FY 2015. Lastly, one-time funding authorized two consecutive years by the S.C. General Assembly supported and replaced aging

vehicles and personal protective equipment, and updated critical radio communications.

| Type | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
|--|--------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|
| Participating Fire Departments | 216 | 216 | 222 | 222 |
| Registered Firefighters | 7,128 | 7,290 | 7,729 | 7,753 |
| Number of personnel (day-to-day operations) | 10 (two full and eight part-time) | 10 (two full and eight part-time) | 11 (two full and nine part-time) | 11 (two full and nine part-time) |
| Since 2005, number of activations | 25 | 35 | 46 | 53 |
| Current task force members | 131 | 119 | 121 | 121 |
| Total volunteer hours recorded | 6,653 | 6,803 | 11,248 | 12,632 |
| Average time (hours) a volunteer gives | 51 | 59 | 78.5 | 104.3 |
| Training/ exercise opportunities | 125 | 125 | 184 | 159 |