

Training

It is estimated that the volunteer fire fighters within Wake County spent more than 50,000 hours in various training activities during 1993. This is an indication of their commitment to the fire service and willingness to help others. The introduction of state and federally mandated training requirements in recent years has reduced the time available for discretionary training programs and placed additional emphasis on the need for effective and efficient training delivery systems.

The County can support and strengthen the fire service in Wake County by providing a strong foundation and support system for training. The County's existing Training Academy is the first element of this program and provides a valuable service; however the current program should be strengthened and expanded to provide a much more systematic and comprehensive approach. Training should be structured and scheduled around the needs of volunteers, to allow them to obtain the training they need at times they are available to attend and participate.

The individual fire departments in Wake County have widely varied training programs. Each department establishes its own training requirements, evaluates its own performance capabilities, and administers its members' compliance with the department's training mandates. The departments differ significantly in the levels of certification and training that have been established for different ranks and positions. They also utilize numerous different methods for delivering training and evaluating the effectiveness of their efforts.

For example, to become a driver/pump operator at one department, a fire fighter may be required to successfully complete a State certificated training program and then demonstrate competence by completing a detailed departmental performance evaluation.

At another department, a fire fighter may only have to drive and operate a pumper to the "satisfaction" of the Chief.

Some of the departments have written requirements for different positions while others have no documentation of their requirements or and no training records for individual members. While many of the volunteers have obtained high levels of certification and are actively participating in ongoing and special training programs, many others are barely meeting the minimum requirements established by their individual departments.

There is sufficient training available for individuals who are motivated and have the opportunity to participate. The Wake County Fire Academy offers a certificated fire training program that is sanctioned through the North Carolina Department of Community Colleges and the North Carolina Fire and Rescue Commission. Wake County Technical College also provides State certificated training programs. The courses and curriculum offered by both the Academy and Wake County Technical College focus on providing essential information and skills training related to operating at emergencies. Interviews with personnel throughout the County provided a very favorable response to the quality of training that was offered by both organizations.

Although fire departments and individual fire fighters are encouraged to use these available resources, it is almost entirely up to each department to establish and maintain training requirements and programs for their own personnel.

Training in operational skills and company functions is conducted most frequently at the fire stations or at local training sites. The training is generally led by personnel designated as instructors by the individual departments. This training is mostly department specific and focuses on individual department standards and operating procedures. Although instructor certification is required to teach in most cases, the ability of these individuals to plan, conduct, and evaluate training appear to vary considerably.

To be effective, training and education programs must address the specific needs of a fire department. The fire departments in Wake County should work toward operating with a higher level of coordination and consistency, based on standard operating procedures. While many similarities may exist, there is need to increase the consistency of training among the departments and to enhance the effectiveness of each department's training program within Wake County. Establishing similarities including operational guidelines and minimum individual and department performance requirements between numerous independent volunteer departments will be a difficult task.

Operational guidelines and training requirements must first be developed. The process must involve active participation from each of the individual departments. An integral part of this process must involve the establishment of an agreed-upon system with specific criteria for measuring each department's compliance with established training mandates. Any evaluation system must be based on a department's demonstrated ability to meet documented performance requirements.

There is an existing need to develop and implement management training programs. Courses that address: the recruitment process, leadership styles, motivational techniques, budget preparation, conflict management, and effective communication are needed. Participation in management training should be considered when establishing minimum requirements for leadership positions in all of the volunteer departments. There is a need to design a more comprehensive officer development training program in Wake County.

Each of the departments is faced with similar fire response deliverable expectations, however they do not have the same training nor performance requirements for their members. The lack of time available for training will continue to present challenges to all of the volunteer departments. The most efficient manner to address

these problems is through effective training programs, provided or coordinated through the County.

Wake County Fire Academy -- The Academy, which is located in the Southwestern corner of the County, was established in 1988 in order to improve the levels of training for volunteer fire fighters.

The Fire Academy was intended to provide departments with basic and continuing education programs and to maintain accurate training records. It was also intended to "centralize the management of the fire training program." The Training Division of the County Fire Marshal's Office is responsible for managing the Academy and has requested \$143,000 to provide fire service training in 1994/1995. Two County Deputy Fire Marshals are assigned to manage and conduct training at the Academy's training facility. They are supported by State certified instructors, who are paid through the community college system. Courses and programs are primarily directed toward providing certification directed training, manipulative skills and live fire training exercises, most of which is based on NFPA professional qualifications standards.

The North Carolina Department of Insurance has recently documented recommendations for improving site safety at the Academy. Subsequent changes resulting from this review and the documentation of procedures should improve safety at the training facility.

The facility is available for live fire training to all of the County departments, including Raleigh and Cary, and to the CP & L fire brigade. The training facility has experienced increased utilization each year. During 1993 it was utilized for more than 465 hours by County volunteer departments, while individual department members spent more than 11,000 hours training at the site. In addition to activities at the training facility, the training staff also assists departments that request support for their specific

training needs. The nature and extent of support requested varies significantly from department to department.

Minimum Performance Requirements -- Although the State of North Carolina has established minimum performance requirements for various levels of certification for individual fire fighters, each department in Wake County determines its own requirements related to membership, training and required certifications for its members. Most of the departments utilize the County training facility for "Essential/Individual Skills Training," however, less than 50 percent of the departments conduct live fire training involving single or multiple company evolutions at the facility. The County has not established minimum entrance or training requirements for the contracted departments. A policy and systems should be established to monitor performance capabilities for any of the volunteer departments.

Training involving multiple company operations is not frequently conducted at the Academy. Each of the 21 departments operates under its own procedures and essentially determines its own performance capabilities. The study found that there is wide range of record keeping systems relating to individual or department participation in training activities. Annual evaluation of each department should be conducted at the Training Academy or at a suitable location.

Standard Operational Performance

Performance and Certifications -- While they are morally responsible to the people who live and or work in their districts, each of the 21 departments is, in reality, only accountable to itself for its performance capability. The existing County structure and the contracts with individual fire departments for delivering fire protection services provide minimum authority and no procedures for establishing or maintaining consistent performance levels.

There are significant differences in training requirements, operating procedures and resulting performance capabilities among the 21 volunteer organizations. Without standardized operations, performance evaluations of an individual or team have little practical value. Because each department has its own standard operating procedures and training requirements, there is no valid standard for measuring the performance capability of each individual or department.

The North Carolina Department of Community College and North Carolina Fire and Rescue Commission have authorized Wake County Technical and the Wake County Fire Academy as delivery agents for state courses that are nationally recognized and designed around national fire fighter certification standards.

Professional certification at different levels is based on an individual's completion of courses that satisfy standard recognized performance requirements. They are not based on an individual's ability to perform the specific tasks required by a particular fire department nor to operate as a team member of that department executing specific operations. Proficiency in the generic skills has little value to the individual or to the department unless they can be effectively applied to that department's operations. Continuous, performance based, skills training must be mandated, scheduled and conducted at the department level.

The lack of consistent operational guidelines and minimum performance requirements will significantly limit the ability of different departments to effectively complete required tasks during incidents requiring multiple department operations.

As the County departments begin to operate more closely together in the future, there will be a critical need to develop, implement and manage compliance with a standard set of operational guidelines. Appropriate training programs must be provided and training requirements must be followed.

Mandated and Discretionary Training -- Maintaining proficiency in the required skills requires periodic practice. In recent years, several new State and Federal Regulations have been passed that directly impact on the time available for volunteers to train. Large amounts of time are now required in order to comply with hazmat and infectious disease training mandates found in 49CFR1910 and other OSHA regulations, NFPA 1500, State Fire Department Inspection Program, ISO requirements and other new regulatory programs.

The contractual agreement between Wake County and the volunteer departments establishes the mechanism to require standard training requirements. The current contract states that "Each fire department shall have an adopted guideline that addresses appropriate initial training of fire fighters and continuing education that meets or exceeds all State requirements." This wording does not provide the County nor the individual departments with appropriate guidelines for establishing or implementing the necessary training programs or objectively evaluating compliance. Each department is currently determining how their performance is measured.

The fire fighter entrance, membership and driver/operator requirements are inconsistent. In most cases, officers are elected or appointed based on highly subjective and a minimum of objective criteria. Performance capabilities at all levels vary greatly.

The goal of the training mandate within the County contract should be to see that all personnel are capable of performing at consistent levels. In order to meet that goal, detailed minimum performance standards for different positions or "ranks" for both career and volunteers will need to be developed and implemented. In addition to individual performance requirements, department operational performance minimums should be detailed and a system for measuring a department's performance capabilities should be established.

Personnel

Career Personnel -- Many of the departments have recently been faced with a need to hire and train career personnel in order to provide minimum daytime coverage. Several other departments have recognized a need to implement career staffing in the near future. Until recently, the individual departments have been solely responsible for hiring their own personnel. Job requirements, performance evaluation methodologies, hours, working conditions, wage and benefit packages, and training requirements vary from one department to another.

County Employment -- The recent hiring of three career personnel for the Fairview Fire Department as County employees has established an excellent mechanism to address this issue in a more uniform and consistent manner. Planning and coordination of personnel policies among the departments will be essential in the future. There is already a need for those departments that employ career personnel to review, and in some cases establish, personnel practices and human resource development programs. The option of bringing these employees under the County structure, as has recently been implemented for the Fairview Fire Department, or as municipal employees, would relieve the volunteer organizations of many of the burdens of managing career personnel.

Career/Volunteer Combination Staffing -- As the utilization of career staff increases throughout the County, there will be potential for personnel and operational problems within individual departments as well as among the different departments. At the present time, there are no conflicts with neighboring career departments; they are currently the primary recruiting source for some of the volunteer departments.

The increased use of a mixed (volunteer/career) work force will require training in: managing change, leadership, conflict management, and team building skills, for most

departments. Creating and maintaining a work place that establishes an environment of trust between career professionals and professional volunteers will not just happen.

It is not realistic to expect the exact same level of performance from career staff and volunteers. Those persons hired by either the County or the individual departments should be expected to perform at a higher level than most volunteers of a similar rank because it is their job on a day-to-day basis. This does not mean that some volunteers may not perform at even higher performance levels than paid staff. Establishing, maintaining, and requiring adherence to realistic performance levels for all personnel by all departments will be an essential component of any system designed to improve the coordination and performance of the fire departments serving Wake County.

The establishment of a training system that effectively and efficiently addresses the needs of each of the volunteer departments while requiring consistent performance levels throughout the County is essential. That system needs to be developed, enforced and centrally administered.

Recommendations

A Human Resources position should be established within the Fire Administrator's Office to create a training system for all fire departments providing services to Wake County.

Establish the Position of Chief of Training with full-time responsibility for implementing and monitoring competency based training programs for all departments providing contracted services to Wake County.

Establish a task force to work with the Director of Human Resource Development and the Chief of Training to create a system that will implement consistent competency based training programs for all ranks and all departments.

Establish that compliance with the training programs, determined by the task force, is mandatory for all departments providing contracted services to Wake County.

Develop a standard Wake County Training Manual.

Implement the site safety recommendations documented by the North Carolina Department of Insurance.

Establish and implement a certification program for all instructors who will participate in live fire training.

Establish and maintain a computer based record keeping system to document and maintain individual and department training records.

Mandate the development, documentation, and adherence to detailed lesson plans for any activity conducted at the Academy.

Establish a training program that requires each contracted department to annually participate in a performance based evaluation of their ability to safely, efficiently, and effectively complete a standard set of practical fireground evolutions. The evolutions should directly reflect the content, goals, and objectives contained in the County Training manual.

Establish a drill schedule that requires multiple departments to train together.

Establish a minimum entry level, training and performance requirements for all career and volunteer positions within the County.

Develop and provide a management training series that focuses on critical skills essential to implementing change.

Communications

Communications services for most of the fire departments in Wake County are provided by a consolidated 9-1-1 Public Safety Communications Center which is operated by the City of Raleigh. The two exceptions are Cary and Apex which have chosen to operate their own Public Safety Communications Centers. Wake County contracts with the City of Raleigh to provide this service to the unincorporated County areas.

The communications service that is provided for the Wake County fire departments can be described as adequate; it gets the job done, but it could be done considerably better. Individual fire departments and the Fire Marshal's Office expressed dissatisfaction with both the dispatch and data provided by the existing system. The objective of receiving calls from the public and dispatching the appropriate fire department appears to be accomplished with reasonable accuracy. One dispatcher is assigned to dispatch fire calls and to handle tactical communications for Raleigh and the County departments. Calls are processed fairly promptly, as long as the assigned fire dispatcher is not too busy. It is not unusual for the one assigned dispatcher to be busy doing something else when one of the County units needs to communicate over the radio.

In addition, many of the dispatchers appear to be only marginally familiar with the geography, jurisdictional areas, and operational details of the rural fire departments. The radio system has been expanded to provide tactical radio channels for the rural departments, however the systems are not compatible with Cary or RDU Airport. These shortcomings could be described as inconvenient and sometimes aggravating, however they could present major problems in critical situations, such as a major incident where multiple Wake County companies must respond and communicate between one another.

The communications system should provide a much higher level of support for the County's fire departments. There should be one dispatcher dedicated to the County fire departments at all times, or (more efficiently) two dispatchers assigned to handle the Raleigh and surrounding area fire departments. The Communications Center should be the hub of operations and an efficient resource coordination point for mutual aid and joint response resources throughout the County. All of the fire departments should use identical communications protocols and the dispatchers should be an important element of the system for managing operations, not only for dispatching the appropriate fire department to an incident. The existing system falls short of desirable objectives in all of these areas, possibly because no concerted effort has been made to see how a well-planned and operated communications system can work.

A major effort is needed to improve the communications system to meet the present and future needs of the fire departments. The most effective approach to address this subject is as part of an overall plan to restructure and upgrade the operations of the fire departments. Some of the existing weaknesses in the Communications Center can be addressed, however it will be much more productive in the long term to develop a plan for the fire departments and then to plan the communications system to support that operational structure.

The communications system for the future should be designed to meet the needs of the fire departments, using standard operating procedures and communications protocols that would apply Countywide. All units in the system should be fully capable of communicating with each other and should be dispatched and redeployed following a structured Countywide system, supported by a computer aided dispatch system. To support the volunteer system, an advanced alpha-numeric paging system, interfaced with the dispatch system, should be acquired. In the future, the radio system should support data transmission for mobile digital status units and mobile data terminals.

The concept of a consolidated City-County Public Safety Communications Center is a progressive step and should not be abandoned in favor of a separate center for the County or a separate fire communications system. These recommendations presume, however, that the fire departments can have a much greater influence on the way that the service is provided than is presently the case. If the Public Safety Communications Center continues to function without a comprehensive plan for fire communications, the service will become less than adequate for the future needs of Wake County.

Recommendations

Redesign the communications system and protocols around the new organization of fire services in the County, ensuring that the same communications protocols are used by all departments. The communications center should be the hub for dispatching assignments and coordinating automatic mutual aid response.

Ensure that all departments and units in the County can communicate between one another.

Code Enforcement, Inspections, and Fire Cause Determination

The County's responsibilities for code enforcement were greatly increased by the adoption of the State Fire Code, which places the responsibility on local jurisdictions to perform mandatory occupancy inspections on a regular basis. This program has resulted in the enforcement of the fire code in hundreds of occupancies, many of which were not previously inspected, resulting in a very large increase in the workload and level of responsibility assigned to the Fire Marshal's Office. Many of the occupancies that are currently being inspected were never previously inspected or required to comply with any codes.

State Fire Code Enforcement and Inspections -- The office is specifically responsible for enforcing state fire code requirements that apply to all occupancies except one and two family dwellings. The State of North Carolina has adopted mandatory inspection frequencies for several classes of occupancies which must be accomplished with local resources. The municipalities have the responsibility to perform the required inspections or to contract with the County for this service. The County's jurisdiction currently includes: all unincorporated areas of the County, and the municipalities and extraterritorial jurisdictions of Apex, Holly Springs, Knightdale, Raleigh Durham International Airport, Rolesville, Wake Forest, Wendell and Zebulon. The County Fire Marshal's Office is also responsible for fire and electrical inspections of all public schools in the entire County.

The Fire Code Enforcement Team also assists local building officials with new construction projects to ensure compliance with State Fire Code. The fire inspectors review construction plans and inspect new buildings prior to the granting of a Certificate of Occupancy. These tasks are very demanding in a rapidly developing and diversifying service area.

Through April of this year, the Inspections Team had conducted more than 1,950 building inspections and identified more than 4,140 violations. This compares to 1,526 inspections that identified 6,329 violations during a similar period in 1993. There are 2,423 identified inspectable buildings in Wake County's jurisdiction, which include over 5,000 individual occupancies.

The Fire Marshal's Office has identified 2,423 occupancies that are subject to regular Fire Code inspection. The State Fire Code divides these buildings into three categories:

High Priority (Annual Inspection Required)	1,476
Medium Priority (Biannual Inspection Required)	494
Low Priority (Triannual Inspection Required)	<u>453</u>
TOTAL	2,423

To meet these objectives, the inspections staff must complete 1,874 building inspections annually. In addition, they are responsible for 105 public school campuses, which include more than 1,000 individual buildings, each of which requires two fire and electrical hazard inspections annually. The workload also includes more than 300 foster care and family care homes which require annual inspections, plus plans review and new construction inspections, issuance of permits and follow-up on complaints of fire code violations.

The workload exceeds the capabilities of the current staff and only the higher priority objectives are being met -- there are insufficient personnel to meet the medium and low priority workload. It will be necessary to add personnel, improve efficiency, and refine records management and follow-up techniques to come close to meeting the inspection objectives that are established in the Fire Code.

The most efficient manner to meet this objective would be to utilize the career fire fighters that have been hired to staff fire stations (as discussed in Chapter III). In

order to conduct code enforcement inspections, however, the fire fighters must be County employees or municipal government employees -- not employees of independent fire departments. (The three personnel who were hired by the County to staff the Fairview stations meet this requirement.) This is a significant reason to consider making all of the career fire fighters either County or municipal employees.

Innovations in methodology, training and increased utilization of computerized systems during the past ten months training have improved the productivity of the Inspections Division. Division personnel required an average of two hours to complete inspections during 1993 and are requiring just over 90 minutes per inspection during 1994.

A review of the current inspection workload with the Fire Marshal and an estimate of new construction demands throughout the County indicates that two additional Inspector/Investigators are needed as soon as possible to meet the mandatory inspection frequency requirements. Filling these two positions would be a stop-gap measure to address the immediate overload problem. The numbers need to be readjusted when a strategy is adopted relating to the use of fire suppression personnel to perform code enforcement functions.

Fire Cause Determination/Emergency Response -- The members of the Fire Marshal's Office respond to incidents to participate in fire cause determination and assist the incident commander. During 1993, slightly more than 10 percent of the total Fire Marshal's Office workload was dedicated to tasks identified in these two areas. Most of the current responsibilities assigned to the Fire Marshal deal with planning, administration, budgeting, and management tasks related to contracts with the 21 different volunteer departments. The responsibility and authority of the Fire Marshal's Staff in the areas of investigations and emergency response are not clearly defined. Fire departments may or may not utilize these services and expected outcomes and deliverables are not clearly identified.

Fire Marshal's Staff respond to major incidents and assist in implementing incident command. They serve as the Fire Marshal's representative in field operations and as technical advisor and/or coordinator between the City/County operations center.

In addition, assigned staff perform fire investigations upon request of any of the 21 different departments. They also serve as members of the Wake County Arson Response Team. The role of the Fire Marshal's Office and expected outcomes from their participation in these tasks need to be better defined.

Recommendations

Create two positions for a Fire Inspector/Investigators in the Fire Marshal's Office as soon as possible.

The Fire Marshal's responsibilities and authority in the areas of emergency response need to be more clearly defined.

Establish an improved system for follow-up investigations of suspicious fires. This should involve law enforcement organizations and the Fire Marshal's staff.

Develop a program to train and qualify fire fighters to perform occupancy inspections in low hazard occupancies. This will allow the inspectors to concentrate on medium and high hazard occupancies.