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Kansas City, Missouri Fire Department's Need for Hazardous Materials Operations Refresher Training

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Abstract

The problem was the Kansas City, Missouri Fire Department (KCFD) was not compliant with federal guidelines regarding refresher training at the first responder HAZWOPER level.

The purpose of the research was to determine how KCFD could become compliant with federal guidelines regarding first responder hazardous materials operations refresher training. Action methodology was used to answer the following research questions: a) What do KCFD's General Operating Guidelines require of first responders including engine companies, aerial companies and rescue companies, and what provisions are made for ongoing training?, b) what are the certification, continuing education, and recertification requirements under federal guidelines?, c) what programs do fire departments of similar size have in place to meet federal guidelines?, and d) what steps need to be taken to ensure that KCFD meets the requirements of federal guidelines?

In order to answer the research questions a literature review was conducted of internal policies, related federal guidelines and nationally published books, periodicals, and fire departments of similar size were surveyed. Limitations included the lack of centralized training, licensure, and recertification records within KCFD and inconsistent data input into current systems. It was found national standards allow recurrent training programs sufficient in duration to cover competencies of the certifying agency's choice, KCFD lacked a policy addressing hazardous waste operations and emergency response standard (HAZWOPER) training, and did not include it as a core competency although required in firefighter I training. Similarly situated fire departments reported using continuing education (CE) programs for annual recertification. A letter sent to the fire chief outlined recommendations including which committees within the labor-management partnership should amend the core competency policy, develop competency

based training centered on the mission expected of first responders during hazmat response, and the need for a centralized records management system for training, licensure and recertification of personnel.

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Introduction

There are many aspects to the daily duties of today's firefighter. In addition to fire suppression, rescue and emergency medical response, today's firefighter is often the first arriving emergency response professional on the scene of hazardous materials (hazmat) incidents. Even in communities with a specialized hazmat team, whether dedicated or brought together from various apparatus, it is often a strategically placed engine or aerial that arrives on scene first, and upon assessing the situation, determines if the incident is related to hazmat. The first responder becomes a critical component of the hazmat mitigation process.

The first responder needs the knowledge, skills and ability to recognize and identify the hazard, establish a perimeter appropriate for the material involved, determine if a higher level of response is necessary, and relay pertinent information to the hazmat team while protecting the safety of themselves and bystanders. All this must be done while appropriately using IMS and applying pertinent parts of all other training received as a firefighter. In communities without a dedicated hazmat team, the initial responding fire company may be on scene for several minutes without the necessary knowledge to be able to prevent the incident from growing, making it even more important to be able to pull their previous training and experience in to play. Many firefighters receive initial hazmat operations training as a cadet or new hire. Without exercising or refreshing that training, the relatively low number of hazmat responses in relation to the other types of responses makes annual refresher training especially important.

Although Kansas City, Missouri Fire Department first responders receive initial hazardous materials operations (HAZWOPER) training at the fire academy, there has been no provision for subsequent continuing education or recertification. As a consequence, the Kansas City, Missouri Fire Department (KCFD) is not fully compliant with federal guidelines (40 CFR

311, 29 CFR 1910.120, NFPA 472 and NFPA 473) regarding refresher training at the first responder operations level. This forms the problem addressed in this research. The purpose of the research is to determine how the KCFD can best become compliant with federal guidelines regarding refresher training at the first responder hazardous materials operations level. Action methodology was used to answer the following research questions: (a) What do KCFD's General Operating Guidelines require of first responders including engine companies, aerial companies and rescue companies, and what provisions are made for ongoing training?, (b) what are the certification, continuing education, and recertification requirements under federal guidelines?, (c) what programs do fire departments of similar size have in place to meet federal guidelines?, and (d) what steps need to be taken to ensure that KCFD meets the requirements of federal guidelines?

Background and Significance

KCFD is on the forefront in fire department hazmat response due mainly to two significant incidents. The first occurred in 1959, an explosion and fire at a service station and bulk fuel storage facility in Kansas City, KS that killed 5 KCFD firefighters and 1 civilian. The second occurred in 1988, an ammonium nitrate explosion at a construction site that killed 6 firefighters. Both groups of firefighters killed were first responders and not members of a hazmat team. In 1991, a dedicated hazmat team (Hazmat 71) was formed and is still in existence today, it's designation reflecting the sum of the company designations for those lost in the 1988 explosion (Pumpers 30 and 41). HazMat 71 was recognized as the nation's busiest hazmat unit in its 2006 run survey (Firehouse, 2007).

Hazmat 71 is situated on the East side of the city with quick highway access for North and South travel. However, the hazmat team usually arrives on scene after the initial pumper or

aerial due to the geographic size of the city, 314 square miles. In addition, the hazmat team is often returned to service or not requested to the scene (if not dispatched) by the first arriving company officer. The fire company on scene then becomes responsible for determining the proper mitigation of the hazmat incident.

Even with Hazmat 71 dispatched, the KCFD first responder arrives first on the scene at potential hazmat events and is required to isolate the area and deny entry and to start the process of identifying signs and symptoms of chemical exposure while avoiding direct contact or exposure themselves (KCFD, 1999). In order to make those decisions, the first responder uses his/her Hazmat operations skills. KCFD first responders typically have two pieces of monitoring equipment available on the apparatus, a CO detector and radiation detector. Four-gas detectors are strategically placed on three rescues and four of twelve truck companies. First responders received training upon initial receipt of the equipment and the training is repeated only as the instruments are upgraded or replaced. In addition, an Emergency Response Guidebook (ERG) is located on every apparatus which individuals received training on during their initial HAZWOPER training.

KCFD operates in a labor-management partnership with Local 42 of the International Association of Firefighters (L42). Through this process KCFD hired Emergency Services Consulting inc. (ESCi) and developed a Strategic Plan much of which is still being implemented today. ESCi is known throughout the emergency services community and respected for its consulting services. Goal Six of the KCFD Strategic Plan specifies the commitment to ensure first responders are prepared to fulfill their duties through training including establishing company level core competencies (KCFD Plan, 2003). That commitment is a running thread throughout the document.

The KCFD hazmat team is also part of the regional response to terrorism and operates as one of eight enhanced hazmat teams in the Greater Kansas City metropolitan area. There are five enhanced hazmat teams on the Missouri side of the state line and three enhanced hazmat teams on the Kansas side. Representatives from the eight regional teams meet monthly as a committee to determine the best way to leverage federal grant dollars in the area of equipment purchases and hazmat team training. Training opportunities are provided to the region through this committee and the Local Emergency Planning Committee (LEPC). While LEPC offers operations training opportunities in the area, refresher training is less frequent. KCFD handles initial operations training in-house and currently does not take advantage of LEPC offerings. The hazmat committee currently offers trainings to members of the eight regional hazmat teams but has no provision to offer training to the other first responders in those departments. This research ties in to Goal 3 of the United States Fire Administration (USFA) to improve responder capability for response to and recovery from all hazards.

Literature Review

A literature review was conducted using material gathered from various sources including the Learning Resource Center at the National Emergency Training Center, internal policies and guidelines of KCFD, and various internet sources. LaTourette et al. (2003) report that most fire departments were confident regarding response to typical hazmat incidents but were greatly concerned about terrorism response, recognizing that first responders are not only underequipped, they are undertrained for those activities. With the ease of access to information used in the formulation of chemical mixtures found on the internet and the multitude of uses for these mixtures, there is a definite increase in risk to first responders on many levels from terrorism plots to chemical exposure from clandestine drug labs to suicides using toxic

chemicals. The Emergency Management and Response- Information Sharing and Analysis Center (EMR-ISAC) recommends training first responders in terrorism recognition to assist in protecting critical infrastructure (FEMA, 2007). They recognize the ability of first responders to be a first line of homeland defense since often they are welcomed into areas such as commercial buildings and residences that otherwise would be off limits to outsiders. There are numerous studies available about the risk to first responders of exposure to clandestine drug labs. While structural fire fighting clothes (turnouts) and SCBA provide some protection according to the Centers for Disease Control (CDC), first responders not wearing that equipment reported skin irritation and respiratory irritation (CDC, 2000). Typically, firefighters do not wear SCBA or their full turnout gear at EMS or other calls for service that may inadvertently or unknowingly result in exposure to clandestine drug labs. More recently, there is an increase in suicide using hydrogen cyanide. Persons committing this act often do so in an enclosed location such as a vehicle. Many post notification in the form of signs including skull and crossbones to warn the first responder, however this is not a guarantee and exposures do occur. For example, in Sugar Creek, Missouri a firefighter and three police officers were sent to the hospital for precautionary treatment after one such event (Bradley, 2009).

In fact, in testimony before the House Subcommittee on Railroads, Pipelines and Hazardous Materials, Elizabeth Harman, Director of Hazardous Materials/ WMD Training Department of the International Association of Firefighters (IAFF) stated that in many localities awareness level training is the current hazmat training provided to emergency responders (Harman, 2009). She goes on to explain that awareness training is intended for employees at facilities that may have hazardous substances to be able to recognize the need to contact the appropriate authorities should there be a release. So, in essence, awareness level training is

preparing responders to contact themselves but not adequately training responders in how to identify, isolate, and prepare a hazmat incident for safe and effective mitigation. HAZWOPER training or training to the hazmat operations level makes more sense for the first responder and is required in Standard 1001 of the National Fire Protection Association (NFPA) which is the guide for professional firefighter qualifications. Hazmat operations level training and product control is required to meet the firefighter I level (NFPA 1001, 2008). KCFD trains all firefighters to level II as part of their initial training to meet International Fire Service Accreditation Congress (IFSAC) certification. The latest edition of NFPA 472 changes hazmat training to reflect assigned duties and tasks of the first responder and provides guidelines to hazmat response agencies developing competency-based training (Butters and Noll 2008). KCFD General Operating Guideline (GOG) 12-1 outlines assigned duties for first responders at a hazmat incident (1999). Recognizing the demands placed on today's first responders, Greg Noll explains the latest revision of NFPA 472 allows first responders to meet the requirements of OSHA 1910.120 for training (Noll, 2008). This is accomplished by training on mission-specific duties and tasks expected of the first responder.

In previous research by KCFD Deputy Chief John Neeley, evidence was found that without regular practice, the time to complete manipulative tasks increased. He went on to explain that retraining occurs in other professions using simulators or skill labs but skill retention methods for firefighters were lacking once they leave the academy (Neeley, 2006). While practical application of typical fire fighting skills may occur during job performance, the ability to apply skills learned during HAZWOPER training is even less due to a lower frequency of Hazmat calls.

Stothard and Nicholson (2001) were commissioned by the Australian armed services to complete a study and review of issues related to skills maintenance, proficiency, and ongoing training. They offered three phases of proficiency development: (a) *cognitive learning*, where underlying information regarding the skill and its application is acquired, (b) *associative learning* where translation from understanding to application is developed and the skill is refined, and (c) an *autonomous phase* where performance becomes increasingly rapid and automatic. But they also noted that, if not rehearsed and refreshed, knowledge and skills deteriorate steeply over time.

This can be especially true and especially dangerous for situations involving low frequency but posing high risk. These are the activities that fall into Gordon Graham's (2002) "red zone" (see Figure 1). It is reasonably clear that hazmat situations fall typically into this category. Stothard and Nicholson (2001) also noted that training is retained best where the practice and review are regularly provided.

Figure 1 Gordon Graham's risk/frequency chart

R I S K	NDT HR / LF	HR HF
	LR LF	LR HF
	FREQUENCY	

Recommendations by Neeley included that a comprehensive training program be developed to parallel the current EMT training program, consolidating all initiatives from the KCFD Strategic Plan related to training and integration of all training competencies whether

related to suppression or EMS skills (Neeley, 2006). He also proposed, and KCFD adopted, a mechanism for regular training and evaluation of core competencies in basic firefighting skills, General Administrative Guideline (GAG) 5-12.

Other research conducted by KCFD Deputy Chief Jeff Grote, recommends any training programs developed within the KCFD be developed and implemented within the framework of the labor-management process (Grote, 2004). While national driver training programs already exist, the real issue was vetting the need for training through current KCFD leadership by making recommendations through existing channels. According to Grote, the need was not to "re-invent the wheel" but to gain buy in that the need for driver training did exist, and that responder and public safety both improve after implementing a driver training program.

Procedures

The four research questions were answered using action research methodology. In addition, review of internal policies and national standards, and an electronic survey were used to answer the four questions:

1. *What do KCFD General Operating Guidelines require of first responders including engine companies, aerial companies and rescue companies, and what provisions are made for ongoing training?* In answering this question, I reviewed KCFD General Operating Guidelines concerning training, refresher training, and skill maintenance, noting specifications regarding hazmat skills training and comparing these to other departmental guidelines. I also looked at how those guidelines are implemented and met throughout the department. Specifically, I looked at the other specialty divisions within KCFD and what General Operating Guidelines cover first responder training in those specialties within our system. The specialty divisions in

addition to hazmat are emergency medical services (EMS), airport rescue fire fighting (ARFF) and technical rescue (Tech rescue).

2. *What are the certification, continuing education, and recertification requirements under federal guidelines?* Two standards were used to answer this question, OSHA 29 CFR 1910.120 (1910.120) which is the federal mandate that applies to the emergency response to releases of hazardous substances and NFPA 472 which is the industry standard for fire service hazmat teams. Both documents were reviewed for information pertaining to maintaining operations level certification. EPA regulation 40 CFR 311 is identical to 1910.120 but covers a different worker population regulated by EPA (OMB 2008). In order to prevent duplicative information, 1910.120 is used for the research, specifically paragraph (q) which addresses training and education standards for the emergency response community (OMB 2008). It should be noted that NFPA 473 Standard for Competencies for EMS Personnel Responding to Hazardous Materials/Weapons of Mass Destruction Incidents (NFPA 473) was looked at however; KCFD does not currently treat patients in the hot zone. There may be a future need, but current guidelines require patient decontamination prior to treatment.

3. *What programs do fire departments of similar size have in place to meet federal guidelines?* A survey was developed in conjunction with the International Association of Fire Chiefs (IAFC) using their access to surveymonkey.com and sent out to eight similarly situated fire departments. The departments were selected based upon a variety of demographic information and from a list used within KCFD for various comparisons, research and other uses that was created by Dr. Richard Gist in conjunction with the KCFD attorney, Alan Holtkamp. The survey included questions regarding type of hazmat team, level of hazmat training amongst

first responders other required certifications such as IFSAC FF I/II, BLS or ALS medical training and method of recertification for hazmat training.

4. *What steps need to be taken to ensure that KCFD meets the requirements of federal guidelines?* In answering this question, an attempt was made to determine the number of first responders trained to the HAZWOPER level by researching the training records held at the KCFD Fire Academy. The training programs and record management systems of the aforementioned specialties were looked at as a source of guidance for a HAZWOPER recertification program. OSHA 1910.120 references refresher training, but provides limited guidance in duration of training. It does reference in NFPA 472 in Appendix E. NFPA 472 has extensive information guiding initial training to the operations level but does not incorporate refresher training.

During the research phase, there were several hindrances to researching the training records. The first limitation found was the lack of a central records management system for training. In fact, training records are kept in various databases, created locally within the specialty divisions in addition to the database at the KCFD training academy. Besides training records, there is no single central repository to find certifications or licenses that each individual holds making it difficult for the individual to know when they are due for renewals or supervisory staff to track. Although a centralized training database is an objective of goal six of the KCFD strategic plan (KCFD Plan, 2003) it is not in place.

Another limitation was the limited response to the survey. Only five departments responded and not all five completed the entire survey. The survey was too confidential and did not capture identifying information from the respondents, making follow up with those surveyed

impossible. To duplicate this research, better tracking of where the survey is sent and who responded must be included so the researcher may follow up with the respondent.

As battalion chief in charge of the hazmat division, the researcher acknowledges bias. The topic of this research was perceived by the researcher but the scope of omission of recurrent HAZWOPER training in policy department wide was unknown. Additionally, the implementation of the results may place unwelcome burden on hazmat staff.

Definitions:

AHJ: Authority having jurisdiction; certifying agency for hazmat operations trained personnel.

GOG: General operating guideline; operational policy for KCFD.

GAG: General administrative guideline; administrative policy for KCFD.

HAZWOPER: Hazardous materials operations; may refer to training or the OSHA 29CFR1910.120 Hazardous Waste Operations and Emergency Response Standard itself.

Results

1. What do KCFD General Operating Guidelines require of first responders including engine companies, aerial companies and rescue companies, and what provisions are made for ongoing training?

GOG 12-1 outlines specific steps for first responders depending on the hazard encountered. The basic premise is stated as: *Identification of the presence and stabilization of an incident are primary goals of first responders. Isolate the entire area and deny entry to all personnel, start R & I process, attempt to identify signs and symptoms of chemical exposure, and avoid any direct chemical contact exposure* (KCFD, 1999). The responsibilities, however, are many and highly detailed. A full 15 pages of instructions are given, covering actions expected in

various categories of hazards and materials. These actions are expected to be taken by the first arriving crews.

The initial response will be a pumper, a rescue, a truck, and a battalion chief. HazMat 71 will also be dispatched but the actions detailed are expected to be well underway, if not complete, by the time of their arrival. While the requirements are many, complex, and critical with respect to safety of public and responders, the GOG is silent with respect to either initial or ongoing training.

By contrast, other technical specialties are quite specific regarding recurrent training. GOG 13-4, Training for Airport Responders, dictates that first responders in districts surrounding both airports must receive 16 hours of recurrent training annually in addition to the initial 30-hour Aircraft Rescue Fire Fighting (ARFF) training they receive upon transferring in to the district. The first responders referenced are not part of the ARFF specialty division of KCFD but are located in the normal fire suppression districts adjoining Wheeler Downtown airport and Kansas City International airport. Training records are reviewed by the federal Aviation Administration (FFA) as a part of their regulatory reviews of the airports.

Similarly, EMS devotes the entirety of GOG 7-1 to specifying how records of continuing education (CE) will be maintained and reported. Specific CE requirements are established by the Missouri Board of Emergency Medical Services for all EMTs and are monitored by an independent medical director in addition to KCFD's oversight. There are specific requirements for content to be instructed and the intervals within which areas must be readdressed.

GAG 5-12, *Regular Core Competency Training,* specifies a regular pattern of recurrent training and proficiency evaluation for what were deemed core firefighter competencies. The matrix of competencies is reproduced in Figure 2.

Figure 2 KCFD's identified core competencies and training levels.

CORE	Frequency	Individual	Company	Battalion	Shift
Safe Driver Program					
✓ Safe Driver Class		x			
✓ Hands-on Driver			x		
Fireground Operations					
✓ Spotting Apparatus			x		
✓ Catching Hydrant			x		
✓ Advancing Hand line			x		
✓ SCBA Operations		x			
✓ Ventilation			x		
✓ Ground Ladders			x		
✓ Search Techniques			x		
✓ Exit Hazardous Areas		x	x		
✓ RIT Operations			x		
✓ Street Pipe Operations			x		
✓ Aerial Operations			x		
✓ Flypipe Operations			x		
Extrication					
✓ Power Tools Lab			x		
✓ Vehicle Stabilization			x		
Ropes & Knots					
✓ Hoist dry/wet, Tie off wet line			x		
EMS					
✓ Spinal Immobilization			x		
✓ KED			x		
✓ Vitals		x			
✓ Gas Monitors			x		
Incident Management					
✓ Fireground Ops				x	
✓ EMS Ops				x	

It is pertinent to note that hazmat training was not included in the core competency matrix despite the critical reliance on first responders to provide initial identification, assessment, and containment in GOG 12-1. In summary, while first responders are expected to execute

detailed and potentially critical actions and decisions, there never was a provision for recurrent training or proficiency assessment once they leave initial academy training.

2. What are the certification, continuing education, and recertification requirements under federal guidelines?

Within 1910.120, refresher training is relegated to responders at all levels maintaining competencies through training or demonstration (OSHA, 2006). It is further explained that competency at the operations level includes previous competency at the awareness level (OMB 2008). Specific hours of training are not mentioned in 1910.120. The regulation provides latitude for agencies to develop recurrent training in any format desired so long as the first responder shows competency in the skills chosen by the agency. Documentation of the training or proficiency must be recorded by the employer including the method in which a competency is demonstrated (OSHA, 2006). NFPA shows specific skills operations level responders need to perform, but does not specify recertification needs

3. What programs do fire departments of similar size have in place to meet federal guidelines?

A survey (Appendix A) was sent to 8 similarly situated fire departments, of which 5 departments responded. Of the 5 that responded, not all answered every question. Although this sample was small, it does show that similarly situated departments are able to provide refresher training to their operations level staff through an established program.

All five respondents had an established Hazmat teams of which 3 are dedicated teams; one of the remainder is made up of trained responders within the department and one is a regional team meaning responders from various departments come together to make up the Hazmat unit. Four of the five respondents (all who completed the question) indicated that other

first responders within their department were trained to operations; one respondent's department even has a few technician level personnel not on their Hazmat team. The important information gleaned from the survey for this research is that all respondents answered "yes" when asked if first responders trained to the operations level were recertified annually.

Half of the respondents deliver their training through their local or regional academy and the other half use a continuing education (CEU) program. None reported barriers to annual recertification. In addition to Hazmat operations, other certifications are required of those first responders including FFII (1 respondent), BLS (3 respondents) and ALS (2 respondents). EMS recertification is obtained through CEU programs by three respondents, and in-service/television service programs by the remaining department. Suppression recertification is obtained through CEU programs by three respondents and in-service computer programs for the remaining respondent. Four similarly situated agencies responding to the survey, without exception, made and enforced specific requirements regarding retraining and annual recertification of first responders in hazardous materials operations. None reported this to be problematic within their training systems. Complete survey items and response data are reproduced in Appendix A.

4. What steps need to be taken to ensure that KCFD meets the requirements of federal guidelines?

Training is provided in several ways. KCFD uses instructors to provide CE training for EMS and ARFF at satellite training sites in accordance with the prescribed standards for those specialties. Due to the hands on nature of suppression and tech rescue, the majority of training occurs at the KCFD training academy. On occasion, battalion chiefs certified as fire instructors deliver training within their respective battalions. Recurrent hazmat training fits the current training delivery models available within KCFD. The core competency training policy needs to

include hazmat operational level tasks which coincide with language in both 1910.120 and 472 which lean toward competency based training with operations level mission specific tasks. The mission for KCFD first responders needs to be defined in relation to NFPA 472 and internal GOG12-1. Those specific tasks identified would then be the basis for the KCFD hazmat operations training program.

Discussion

KCFD already commits to training all entry level firefighters to meet NFPA1001. That standard clearly states that, at the Firefighter I level, NFPA 472 Core Competencies are required to the operations level, and that mission specific competencies with respect to controlling specific products and events are required. These standards are taught, knowledge tested, and skills evaluated as part for KCFD recruit training and Firefighter I/II certification. Entry level firefighters leave the academy with the knowledge and skills independently certified as competent to required levels.

Previous research, however, makes clear that skills degrade over time (Neeley, 2006; Stothard & Nicholson, 2001). Other technical professions recognize this, and provide assessments to test skill maintenance. Continuing education is typically prescribed to ensure that critical knowledge and skills are maintained. In the fire service, however, maintenance of various skill sets is too often dependent on actual use during response.

The lower frequency of hazmat responses makes it difficult for routine job exposure to provide adequate competence in hazmat response for first responders. Are they recognizing the event as a hazmat incident? Are they exposing themselves to hazards that may show up as health issues later? Only limited air monitoring equipment is provided to first responders (all companies have a single gas CO monitor); only a few select companies deploy four gas

detectors. Are the few companies that have 4-gas detectors able to read and interpret the data in all situations?

KCFD's Hazmat team uses NFPA 472 as the basis for hazard mitigation, training and recertification. Accordingly, a first responder HAZWOPER recertification program developed within NFPA 472 guidelines would enable a more seamless response and resolution to Hazmat incidents. With all response personnel working from the same base of knowledge and first responders receiving continued training in Hazmat, safety to responders and the public should increase as well.

Both OSHA 1910.120 and the latest version of NFPA 472 recommend competency based training. However, both documents are vague when addressing refresher or recertification training. While this may be misconstrued as lack of importance placed upon recertification, it in fact opens up the door for program development. The AHJ is empowered with flexibility to build training and recertification programs based upon a core set of competencies and mission specific endeavors.

Research within KCFD's internal policies revealed the absence of recurrent training standards for HAZWOPER across the board. Multiple policies address recurrent training and documentation of training for other specialty divisions within KCFD. EMS training is mentioned in seven of those policies and addressed as a core competency. Recently developed guidelines for core competency training within the department made no reference to hazmat response training. This must be corrected in order for the department to become more consistent in policy and activity.

While other departments are able to provide recurrent training to their members as found in the research, KCFD often gives "lip service" to hazmat response capabilities. A better

foundation for first responders would provide better protection to the public. Millions of dollars are invested in hazmat response within KCFD through commitment of a dedicated hazmat team and through federal grant dollars but does not trickle down into the development of a competent first responder base to hazmat response.

Recommendations

The Kansas City Fire Department was a national leader in developing a dedicated hazmat team and incorporating HAZWOPER training at the entry level. At some point, KCFD failed to recognize the need to maintain hazmat response competency for first responders and that needs to be corrected. In order to accomplish this, the following recommendations will be made to the chief of the department to channel through the Labor-management steering committee (Appendix B):

1. The operations committee (Ops) should rework GOG 12-1 to reflect response related information only. The current GOG 12-1 is cumbersome and incorporates information that should be learned through training. In addition, the committee should determine within more specific parameters and reasonable limitations the actual mission of first responders with respect to hazmat response and identify the core and mission specific competencies that would be the basis for recurrent training.

2. Upon receiving the operational information from Ops, the professional development committee needs to review GAG 5-12 and incorporate those tasks into core competency training. In addition, the professional development committee should work with the hazmat division to determine the best way to deliver this training to the field to immediately remedy the lack of current annual recertification. The Missouri University Fire and Rescue Training Institute (MUFRTI) recently announced online availability of awareness training consistent with NFPA

472; this vehicle might be used to provide annual refresher of the first responder knowledge base. Inclusion of critical skills for first responders related to hazmat recognition and containment to the existing cadre of Core Competencies would lead to annual evaluation of skill sets and lend conformity to current requirements.

3. Another issue discovered during research was the lack of a centralized database for individual responders to keep track of their training, licensure and recertification records. This issue should be referred to the human resources committee and/or a project team should be formed to include members from all committees affected to develop or recommend purchase of a records management system.

Initially, KCFD will be playing “catch up” to provide hazmat recertification training to first responders. Eventually, with the proper systems in place and buy in from departmental leadership, this training will become as seamless as other CE training provided by the department. First responders would be more capable of interpreting single and four-gas meter data, more cognizant of the hazards they face, and know when a higher level of response, i.e. requesting HazMat 71. The recognition that certain events are in fact hazmat events will improve responder and public safety.

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Appendix A

Hazmat Training questionnaire created and sent out using surveymonkey.com.

1. Does your department have an established Hazmat team? _5 Yes, 0 No____

2. If yes, is it a:
   a. stand alone/ dedicated team? __3___
   b. trained responders within same department? __1____
   c. regional team? __1___
3. If no, why not? __0_____

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4. What is the level of certification of Hazmat team members?
   Four responses included Tech, Specialist, California Type III and Technician and various specialists.

5. How many are:
   a. specialists? _____
   b. technicians? _____
   c. operations? _____
   Respondent 1 reported 12 specialists, 42 technicians, and 425 operations.
   Respondent 2 reported 36 specialists.
   Respondent 3 reported 4+ specialists, about 30 technicians, and all 30 operations.

6. Not including members of the Hazmat team, are other first responders within your department trained in Hazardous Materials response? 4 Yes, 0 No_____

7. If yes, how many are trained:
   a. technicians? _____
   b. operations? _____
   c. awareness? _____
   Respondent 1 reported all operations,
   Respondent 2 reported 24 technicians, 425 operations, and 425 awareness.
   Respondent 3 reported 350 operations.
   Respondent 4 reported all approx. 700 line FF's operations and all awareness.

8. If no, why not? ___0 response_____

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9. Are first responders trained to the operations level recertified annually? __4 Yes and 0 No___

10. If yes, is that training delivered:
    a. in the field? __0___
    b. at local/ regional academy? ___2__
    c. CEU program? ___2__
    d. other? ___0__

11. If no, what are barriers to annual recertification? ____0 responses_____
_____

12. What other certifications are required of first responders?
    a. FFII? __1__
    b. BLS? __3__
    c. ALS? __2__

13. In what ways are recertification's obtained within your fire department for EMS?
    a. CEU's? __3__
    b. Independent Study? __0__
    c. Computer based training/ __0__
    d. Other? __1_Inservice and television services programs_____

14. In what ways are recertification's obtained within your fire department for Suppression?
    a. CEU's? __3__
    b. Independent Study? __0__
    c. Computer based training? __0__
    d. Other? __1__Inservice and computer__ -_____

Appendix B

KCFD

BC Donna Maize

HazMat Division

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To: Fire Chief Richard Dyer

Chief Dyer,

I am completing work on an applied research project for the Executive Fire Officer program. The subject of this project is the need for annual refresher training to maintain hazmat operations certification for our first responders. As such, I am making the following recommendations:

1. GOG 12-1 should be reviewed and rewritten to reflect response related information only.

2. The mission of KCFD first responders in regards to hazmat response should be defined so that core and mission specific competencies are identified for recurrent training.

3. GAG 5-12 should be reviewed and hazmat tasks incorporated into core competency training.

4. A centralized records management system for training records, licensure, and recertification needs to be designed and/or purchased. In addition, training needs to occur to ensure consistent data input into that system.

To begin addressing these recommendations, a project team should be formed to review the above information and report their findings to the labor-management steering committee for further action.

If you have questions or would like more information, please contact me.

Respectfully submitted,

Donna Maize
Battalion Chief, HazMat Division