Technical Writing Skills in the Fire Service

Executive Analysis of Fire Service Operations in Emergency Management

BY: Jeffrey T. Lindsey
Estero Fire Rescue
Estero, Florida

An applied research project submitted to the National Fire Academy as part of the Executive Fire Officer Program

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Certification Statement

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that the appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed:
Abstract

Technical writing skills are an inherent ability that is required among the personnel of Estero Fire Rescue personnel. Currently those skills are below normal. A technical writing training program that focuses on fire department documentation is not available to Estero Fire Rescue.

A survey was conducted to identify what other fire agencies are doing to train on technical writing skills. The majority of the respondents are not conducting any training on technical writing skills. Those that do, rely on outside agencies for the training. There is a lack of resources devoted to fire service technical writing skills, yet it is considered a high risk liability for the fire agency.

As a result of the research, a training program was developed for a technical writing skills program for Estero Fire Rescue. This program will be used to train personnel on technical writing skills for required report writing.
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Introduction

Overview

The Introduction will define the problem of technical writing skills as it applies to Estero Fire Rescue. The purpose of this paper will be addressed. In addition, this section will identify the specific research methods used and establish the research questions.

Problem Statement

There are a number of documents that Estero Fire Rescue personnel need to complete. Technical writing skills are an inherent ability that is required among the personnel of Estero Fire Rescue personnel. Currently those skills are below normal. A technical writing training program that focuses on fire department documentation is not available to Estero Fire Rescue.

Purpose

The purpose of this research is to define the elements needed for a training program on the technical writing skills for fire department forms. Further, at the completion of this research a training outline will be developed to utilize at Estero Fire Rescue to train our personnel on technical writing for fire department documentation.

Research Method

This research will use a combined approach of evaluative research and action research. Information will be gathered to analyze and determine the outline for the course. A survey will be used to determine what other fire agencies are using to train their personnel in technical writing skills. The course will be used to educate the
members of Estero Fire Rescue on how to complete documentation using proper
technical writing skills.

Research Questions

The following research questions will be addressed in this paper.

1. What are the various forms that fire personnel have to complete?
2. What do other fire departments do to train personnel in technical writing for fire
department documentation?
3. What are the minimum elements to include in a training program for technical writing
for fire service documentation?

Summary

This section defined the problem and the purpose as it relates to technical writing
skills at Estero Fire Rescue. It also identified the specific research methods used and
established the research questions to be answered by this study.

Background and Significance

Overview

This section will provide the background analysis of the problem. It will provide
sufficient evidence to justify the study from an organizational perspective, based in past,
present, and probable future impact on organizational effectiveness. It will also establish
the definitive linkage between the research problem and specific content area of the
Executive Analysis of Emergency Operations in the Fire Service course.
**Background Analysis of the Problem**

Report writing is an important aspect of practically all parts of the fire service. Estero Fire Rescue conducts building inspections, fire investigations, functions at fire and EMS incidents. In addition, there are maintenance records, training records, and various other forms that require proper documentation. Graham (2002) classifies EMS, building inspections, and fire investigations as a higher risk for liability.

Graham (2002) currently refers to the Risk/Frequency Analysis. (See figure 1.) There are events such as fatal injuries, major injuries, major property damage, and harassment claims and so forth that are of low frequency; however, these are a high risk. A low frequency, high risk event is of concern to Graham. Regardless, he classifies all report writing as high risk.

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**Figure 1 Risk/Frequency Analysis**

The lack of emphasis on technical writing in the fire service is evident by the various texts available on technical writing for the fire service. In addition, the fire service texts that are currently available on other topics do not sufficiently address technical writing.
Fire investigations are a critical part of the fire service. In DeHaan’s (2007) text on fire investigations, there are a total of 762 pages. Yet, only two pages are devoted to report writing. Without a well documented fire investigation report the ability to defend the case in court is weak. Further, DeHann (2007) acknowledges in his text that the most critical means of communication is the written report.

Coleman (2006) illustrates what he calls a “lackluster of report writing” when fire agencies in most occasions check the yes in the performance document section of the accreditation self-assessment check sheet. Chief Coleman cites that most agencies do not evaluate their documentation to an extent of any meaning. In order to effective perform an appraisal of an agency’s performance; they need to measure the outcomes of their program to determine if a difference has been made.

Gordon Graham is a well known lecture on risk management topics. He hails from the law enforcement field; however, has presented at numerous fire and EMS conferences on the topic of risk management. Report writing is seen to be part of risk management as documentation is a key area. Graham (2002) presented a session on tactical report writing at the Fire Rescue West conference in 2002. He basically sent the message to the audience that “Your Reports Suck!!!” He further stated that law enforcement was 50 years ahead of fire agencies in terms of report writing.

Graham (2002) gives three instances when you need to be especially alert to the possibility of litigation. 1. Any injury to a person, deprivation of liberty, damage to property or damage to interest in property caused by fire service personnel, including when they inform personnel of same. 2. Any major injury requiring hospitalization or death, and you are on scene or there is fire department property involved. 3. Any time
someone tells you “I’ll sue!” or any derivation thereof. Oddly enough, people who threaten litigation are actually more likely to become involved in litigation.

Coleman (2006) urges the fire service to develop the staff members in report writing that will inform policy-makers, both immediately and over time, of the requirements to build a strong and adequate fire protection defense system.

*Effectives on the Organizational Effectiveness*

The National Fire Incident Reporting System (NFIRS) has been used by fire departments to report and maintain computerized records of fires and other fire department incidents in a uniform manner since the late 1970's (NFIRS, 2002).

The most fundamental benefit of NFIRS 5.0 is that it helps fire departments understand the nature of the fire problem at the national, state, and local levels. State and local fire departments benefit from the use of data collected by NFIRS in a variety of ways. Fire departments benefit from the data collection using the NFIRS reporting system by the ability to use the collected data to:

- Justify budget expenditures.
- Track personnel and equipment use.
- Respond to media inquiries.
- Identify the need for community education programs.
- Identify Departmental Weaknesses
- Target Problems or Trends
- Create Public Education Programs
• Deal With the Media
• Justify Funding Needs
• Health and Safety

Many State Fire Marshals and State agencies responsible for fire incident reporting use NFIRS data when preparing their annual reports.

According to the US Fire Administration (2002), local fire departments use NFIRS data:

• To obtain statistics and analyze trends.
• To compare local department activity and effectiveness with the State average.
• To conduct comparisons with NFPA standards for fire department resources and functional effectiveness.

*Executive Analysis of Emergency Operations in the Fire Service*

The Executive Analysis of Emergency Operations in the Fire Service is a required course for the Executive Fire Officer Program. According to the course description, this course is designed to prepare senior staff officers in the administrative functions necessary to manage the operational component of a fire and rescue department effectively. One of the areas covered is incident documentation. Throughout the course, students are presented with a series of senior-staff-level issues that require extensive analysis and action. The actions implemented are applied to a mock community in order to evaluate the effectiveness of these decisions relative to the fire and rescue department's operational readiness.
The course is very intense and uses lecture, case study, simulation, scenario, and student participation as instructional media. A joint simulation exercise will be conducted with the Emergency Management Institute during this course. The course incorporates the incident command system forms into simulation. During the author’s enrollment in the class, it was observed that many of the students had a difficulty with how to complete the incident command forms. The author has experienced the importance of properly completing said forms during a real scenario. In many instances if the forms are not correct the chance for reimbursement will be low. The author also realized during the hurricanes of 2004 in Florida that if you did not complete certain forms properly with good documentation, you would not acquire the necessary supplies to recover after the storm was over.

_U.S. Fire Administration Operational Objectives_

The U.S. Fire Administration has five operational objectives. They are: Reduce the loss of life from fire in the age group 14 years old and below; Reduce the loss of life from fire in the age group 65 years old and above; Reduce the loss of life from fire of firefighters; To promote within communities a comprehensive, multihazard riskreduction plan led by the fire service organization; and, To respond appropriately in a timely manner to emerging issues. Report writing could be correlated to any of the five operational objectives as proper documentation enables researchers and those analyzing the data to utilize the information to meet any of the operational objectives. The data from the report will assist in denoting whether there remains a problem in the areas
outlined in the operational objectives for that agency. In addition, the data will enable the agency to concentrate on any of the five operational objectives.

Summary

This section provided the background analysis of the problem. It provided sufficient evidence to justify the study from an organizational perspective, based in past, present, and probable future impact on organizational effectiveness. It also established the definitive linkage between the research problem and specific content area of the Executive Analysis of Emergency Operations in the Fire Service course.

Literature Review

Overview

This section will discuss the findings of others that were reviewed. It will describe summary statements on how the findings/observations of others influenced of the project. The sources in this section date back to no further than 1997.

Literature

The literature available on report writing in the fire service is limited. The author discovered more literature in EMS and law enforcement on report writing then the fire service. A search at the Learning Resource Center at the National Fire Academy unveiled four sources reference to report writing. Only one book was found that was published within the last seven years. The other three items were greater than seventeen years old and were not deemed as being current. In addition, most fire texts have less than three pages devoted to report writing; however, they all cite the importance of proper report
writing and documentation. There are a few articles devoted to report writing in the fire service and will be discussed.

There are many benefits to collecting data and using good documentation. According to the U.S. Fire Administration’s manual on NFIRS (2000) the following benefits can be attained from good documentation.

**Describing a community’s fire problem:** It is possible to pinpoint where fires are occurring, what factors are most responsible for ignitions, and what casualties and damage are occurring as a result of fires. With the problem placed in proper perspective, the most serious and solvable aspects of the fire problem can be tackled first.

**Supporting budget request:** In the era of increasing concerns from our taxpayers on the rising taxes, you find that municipal officials are quick to cut budgets and slow to add new programs. Frequently, fire department managers do not have the statistics to support their requests for additional funds. Good statistics will put the fire problem in perspective with other municipal concerns and help community officials realize the consequences of budget cuts or the value of new programs for the fire department. Such new programs may involve the delivery of other emergency services such as emergency medical services and hazardous materials spill mitigation.

**Supporting code refinements:** A good database permits fire departments to identify and describe fires that might have developed differently or might not have occurred at all if certain code changes had been in place. Loss statistics from other areas with more stringent codes also can be used for comparison. Estimating the likely impact of a code change can involve complex analysis, however, and no incident database can address all the subtleties of code impact.
Evaluating code enforcement programs: It is not sufficient to have codes on the books if they are not properly enforced. In evaluating loss experience, it may be possible to see whether certain losses are occurring in occupancies not up to code, or without desired features, such as sprinkler systems.

Evaluating public fire education programs: Not all problems can be solved by establishing and enforcing codes. There are certain aspects of the fire problem that can best be controlled by public education programs that inform people of the dangers of fire and tell them how to reduce fires, and how to react when hazardous situations arise. It is important to know the exact problem that has to be addressed. Appropriate evaluation criteria must also be in place to measure whether an educational program is in fact helping to solve that aspect of the problem.

Planning future fire protection needs: Many communities and fire departments are becoming very active in planning and are developing master plans. It is essential that the fire service be involved in such planning. A good data base will allow a fire department to compute fire rates relative to population and building inventory, as well as monitor response times. These, with other characteristics of the community fire problem and planning, will support better fire protection in the future based on changing demography and planned community growth. It will also provide input to decisions about the type and level of fire protection a community will provide so that requirements can be established for developers who construct properties that exceed fire department capabilities.
Improving allocation of resources: Proper analysis of fire incident data may show where a redeployment of existing resources can provide the same level of protection or even improve the level of protection within a community.

Scheduling non-emergency activities: Training sessions, in-service inspections, and other activities are important aspects of a fire department’s function. A fire department that tracks the times that fire occur and their severity can schedule these activities when they are least likely to be interrupted by emergency calls or when the normal delay caused by such activities will have the least impact on emergencies.

Regulating product safety: Particularly at the national and state levels, a fire reporting system can be useful in measuring the size and severity of problems associated with various types of consumer products. By identifying the most commonly involved products and the ways these products become involved in fire, this reporting system can help manufacturers redesign their products to make them safer, and it can prompt changes in standards and regulations to require safer products. The reported information also can be incorporated into public fire education programs to warn consumers of the dangers of using certain products.

Support for fire engineering models: Engineering models to design or evaluate fire protection depend upon the output of fire reporting systems to guide and calibrate the models.

Coleman (2006) illustrates that the Commission on Fire Accreditation International’s performance document asks, “Does the fire department perform periodic appraisal of the program to make policy shifts?” The issue that Coleman discusses is that most agencies check they are doing appraisal of their program; however, the intent is for
agencies to appraise their agency measuring their outcomes and make changes in
programs according to the outcomes. There have not been many agencies doing such.

Graham (2002) cites 10 areas to consider in improving written documentation. He
refers to each of these areas as a GRIID. The first GRIID is: *Incident Documentation is an essential component of your job. If you can’t write, you are in the wrong line of work.*
Graham notes the five Pillars of success in this GRIID. First, hire good people who can
learn how to write good documentation. Second, implement and maintain good policies
to show when reports need to be written and what the necessary components of the report
should include. The third pillar is training on how to prepare incident documentation.
Supervisory involvement in the documentation process is the fourth pillar. The fifth pillar
is when something is not done properly, address it.

GRIID two is *Take timely notes during incidents.* Note taking is an important
element in the process. All documentation must be accurate. It is essential to include even
the smallest details such as specificity of statements, times, exact locations, and similar
items. It is difficult to remember all these details after an event, hence note taking is
essential component of the documentation process.

GRIID three is *Remember why documentation is essential and what I will be used for. Don’t write reports for anybody, write reports that are factual in nature.* Reports are
used for many purposes. When writing a report the author needs to document to ensure
there is a record that will last forever and tell the details essentially for any one who picks
up the report to read. In addition, the reader needs to have a clear picture of what the
author is describing.
GRIID four is *Before you put pencil to paper, think*. It makes it easier to compose the outline in your mind first. Then put it on paper. The report should be written in chronological order. In addition, headings should be included to help the reader maintain order as they read through the document.

*Remember the importance of clarity* is the fifth GRIID. Do not write the way you talk, otherwise the report will be lengthy and difficult to read. It is preferable to use simple words and make sure the words used are familiar to the author. In addition, slang or jargon should not be used in documentation unless it is a quote. The bottom line for this GRIID is keeping it simple.

GRIID six *Don’t forget the 5 W’s and the 2 H’s*. Who, What, Why, When, How, and How Many are the basic principles for report writing. The report writer should start with who was involved. Followed by what happened, why you were there and why you did what you did or why something happened, when did it happen or occur, where the event or events transpired, how it occurred if you know and how many.

*Remember the importance of accuracy* is GRIID seven. This is a critical element. The report must be accurate. Times, dates, locations, statements and other factual data have to be accurate. According to Graham accuracy can be enhanced by following the CCP rule: Complete, Consistent, and within Policy.

GRIID 8 is *Always proofread your documentation*. The writer should ask if the document reads well. Does it say what you want to say? Does it look professional with good grammar and precise spelling? The manager’s role is to perform an audit and inspection of the documentation to assure things are done properly.
GRIID nine is *Be accurate, and if you’re right, don’t change it.* There are times when the person reviewing the report wants the report changed. If the report is correct the report writer should not change the report.

GRIID ten *Learn from your experiences.* The more a person writes the better they should become. In addition, reading other reports help makes the writer better at their own documentation.

EMS (Emergency Medical Services) has had used a system for many years to write a narrative report. They use the SOAP format. SOAP stands for Subjective, Objective, Assessment, and Plan. (EMSreources.net 2004)

Subjective is used to describe what the care provider is told. This includes: describing the patient, specifically the age and gender of the patient; chief complaint; what the patient tells the care provider, including history of present event and answers to the care providers questions; what other people at the scene tell them; previous medical history; current medications; and, allergies.

Objective is what the care provider sees, hears, and feels. This includes the initial impression of the patient, including the patient’s location and position; vital signs, including breath sounds; physical exam findings and level of consciousness; general observations and other noteworthy information such as environmental conditions, patient behavior, etc.; and description of the scene, such as amount of damage to the vehicle’s windshield, steering wheel and passenger compartment.

Assessment is the care giver’s diagnosis. This includes diagnostic conclusion(s) based on the patient’s chief complaint and the physical exam findings and any problems that the care provider has ruled out or is possible.
Plan is what the car provider did. This part of the report should be chronological. It should describe what was done for the patient and how the patient responded to the treatment. It should also include what was done prior to the care provider’s arrival, how care was discontinued or transferred, and the condition of the patient upon departure.

There are a number of common errors that personnel need to recognize in report writing according to Best Practices in Emergency Services (2007). They include: the report is incomplete and missing facts; report includes facts that are misstated; reasons for actions are not stated; slang, technical and shorthand terms do not explain what happened to the lay reader; a fact is stated, but how that fact became known to the report-writer is unclear; report is not in logical (preferably chronological) order; and, report is hurried, sloppy and has poor grammar and misspelled words.

Summary

This section discussed the findings of others that were reviewed. It described summary statements on how the findings/observations of others influenced the project. The sources in this section dated back to no further than 2000.

Procedures

Overview

The procedures used in this project are delineated to the level to permit replication. The procedures achieve the stated purpose. This section will define the total population and the process used for selecting a sample will be described in detail. Any
limitations of the project will be noted in this section. Any terms with an ambiguous concept will be defined.

Survey

The author developed a survey to determine what other fire and emergency services use to train their personnel in report writing. Survey Monkey was used as an Internet based survey tool for respondents to answer the questions. The survey is found in Appendix A of this document. The survey was developed to determine the number of hours devoted to training personnel on report writing, the materials currently used to train personnel on report writing, the number of hours agencies would allocate to train personnel on report writing, and the preference of a book to use for report writing training.

Survey Monkey is a commercial based system Internet based. An individual clicks on a link that takes them to the Internet site where the survey is being hosted. The respondent completes the survey and submits the survey once completed.

The survey link was distributed to 50 plus executive fire officer students. In addition, the link was sent to the subscribers of the Florida Fire Chief’s Association listserv. There are 2,370 members of the Florida Fire Chief’s Association. It is unknown the total number of individuals that subscribe to the listserv.

The results of the survey were compiled in electronic format through Survey Monkey. The author than was able to retrieve the results electronically to analyze the results.
Limitations

There are limitations to this method as the diversity of respondents was of a potentially higher number from Florida. There is also the possibility that more than one person from the same department could respond to the survey. In addition, it is unknown how many individuals do not have access to the listserv or how many could not access the Internet to complete the survey.

Terms

Arson Investigation Report - a document used to record the findings of a fire investigation.

Fire Inspection Report – a document used to record the findings of a fire and life safety inspection of a property.

Maintenance Report – a document used to record the maintenance of equipment and vehicles.

NFIRS – National Fire Incident Reporting System is used by fire departments to report and maintain computerized records of fires and other fire department incidents in a uniform manner since the late 1970's (NFIRS, 2002).

Report - 1. An account presented usually in detail. 2. A formal account of the proceedings or transactions of a group. (Free Dictionary, 2007)
Technical - 1. Of, relating to, or derived from technique. 2. a. Having special skill or practical knowledge especially in a mechanical or scientific field: a technical adviser. b. Used in or peculiar to a specific field or profession; specialized: technical terminology.
3. a. Belonging or relating to a particular subject: technical expertise. b. Of, relating to, or involving the practical, mechanical, or industrial arts or the applied sciences: a technical school. (Free Dictionary, 2007)

Training Program - a program designed for training in specific skills (Free Dictionary, 2007)

Summary

The procedures used in this project are delineated to the level to permit replication. The procedures achieved the stated purpose. This section defined the total population and the process used for selecting a sample was described in detail. Any limitations of the project were noted in this section. Any terms with an ambiguous concept was defined.

Results

Overview

The results of the study are defined in this section. The detailed results of all procedures are provided. The specific answers to the original research questions are provided in this section. The comprehensive analysis of data is included. There are tables and figures presented regarding the findings of the results.
Research Method Used

The researcher used a combined approach of evaluative research and action research. Information was gathered to analyze and determine the outline for the course. A survey was used to determine what other fire agencies are using to train their personnel in technical writing skills. The course will be used to educate the members of Estero Fire Rescue on how to complete documentation using proper technical writing skills.

What are the various forms that fire personnel have to complete?

A total of 166 respondents answered this question. There were 162 respondents who complete fire incident reports. Inspection reports were completed by 101 of the respondents. There were 68 respondents that complete fire investigation reports in their agency and 85 that use ICS (incident command system) forms. Maintenance forms were completed by 146. The results are illustrated in figure 2.
What do other fire departments do to train personnel in technical writing for fire department documentation?

According to the results, the vast majority of agencies do not have a technical writing skills training program. There were 167 respondents and 17 had acknowledged they had what they considered a formal training program.
Figure 3 Training Program in Technical Writing Skills

However, when asked to describe their training program, 25 respondents noted a hodgepodge approach to the training and do not have a formal program. These programs vary from on the job training to a few hours of orientation on how to complete the forms. There were three agencies that had a formal training program that was conducted by an outside vendor. There were 12 agencies that noted they rely on the community college to prepare their personnel in technical writing skills. None require the course from the community college. Hence, there were 127 agencies that have no formal or informal training program on technical writing skills.
Figure 4 Delivery of Training Programs

What are the minimum elements to include in a training program for technical writing for fire service documentation?

The survey asked what written material the agency uses for technical writing skills. There were two agencies that use a published book. There were 22 agencies that use a variety of materials to instruct or give guidance to their personnel on technical skill writing.
Another area of importance in the design of a course is course length. The diversity of the responses or the lack of hours devoted to technical writing skills by those that responded was dismal.
There were 126 respondents that replied to how many hours they would support for a technical writing skills course.

Figure 7 Dedicated hours of training

There were no respondents that provided a sample outline of their training program. This may be a result that the vast majority of the agencies do not have a formal training program for technical writing skills.

Summary

The results of the study were defined in this section. The detailed results of all procedures were provided. The specific answers to the original research questions were provided in this section. The comprehensive analysis of data was included. There were figures presented regarding the findings of the results.
Discussion

Overview

The relationship between the study results and specific findings of others is discussed in this section. The author’s interpretation of the study results is presented in this section. The organizational implications are stated in this section.

Relationship Between the Study Results and Specific Findings

The results of the study and literature on fire service technical writing training appear to be consistent. There is a lack of any formal training program that is dedicated to the training of fire service personnel in writing skills. Cornell (2005) identifies the lack of a minimum standard for writing and reading skills as a requirement for incoming firefighters.

Further, the results from this study illustrate that the majority of fire agencies who responded to the survey do not have a formal training program for technical writing skills. It is becoming more apparent that a technical writing skills training program is critical for the future of the fire service. There are many instances that denote the importance of such need.

Cornell (2005) cites that there are increase in grant funding that has become available. Two grants that have become commonplace in the fire service is the Assistance to Firefighters Grant (AFG) and the Staffing for Adequate Fire and Emergency Response (SAFER) Act. Both of these grants require an extensive narrative to define and establish the need for the funding being sought. The author has discussed with a number of
agencies the lack of responding to the grants and the lack of getting the grants as a result of the narrative and documentation needed to complete the grant.

Documentation is more important on a daily basis. Fire personnel need to complete a variety of forms on a daily basis. There are inspection forms that need to be completed after the completion of a fire and safety inspection. These forms typically consist of a checklist and an area for a narrative. The narrative of the inspection form may be used in the future to clarify recommendations that were made to the owner for safety violations or code deficiencies. The documentation is essential for reference at a later time. It may also be used in litigation.

Fire investigations are a critical part of the fire service. In DeHaan’s (2007) text on fire investigations, it has a total of 762 pages, two pages are devoted report writing, yet without a well documented fire investigation report the ability to defend the case in court is weak. Further, DeHann (2007) acknowledges in his text that the most critical means of communication is the written report.

Maintenance forms are completed when the vehicle is need of maintenance. The documentation is a critical element in that the mechanic will need a complete description of what is wrong or what the vehicle is doing that the author has concern about. The document will be used if there is a motor vehicle crash involving the vehicle. The maintenance forms will be used to note any deficiencies of the vehicle and what was done to rectify the situation. Documentation is critical to the investigation of the accident and the potential litigation that typically ensues after the incident.

Goldfeder (2007) in his Secret List e-mail list serv sent out the following message.
“Further emphasizing the critical and important work of fire apparatus technicians, mechanics, engineers and accurate records and performance related to FF survival, the master mechanic of the Waterbury (CT) FD has been placed on paid admin leave by the Fire Chief. This is following investigations into the May 19 crash between 2 Waterbury fire apparatus that killed a Waterbury firefighter. The action follows a PD investigation into the cause of the LODD crash that concluded the Waterbury Bureau of Automotive Repair had significant shortcomings.

The report said mechanical failure was not a factor in the accident that killed Captain John Keane (reports identified the failure to use seat belts as well as running a red traffic signal was the cause), however police Superintendent Neil O'Leary concluded the bureau fell significantly short of department maintenance and record-keeping standards. Among the findings of the report was that Engine 12, a replacement vehicle in the fleet involved in the fatal crash, had not been thoroughly inspected in 14 months despite a department policy to examine all engines annually. After the accident, state inspectors found problems with the front and rear right brakes of the engine that should have placed it out of service under state Department of Transportation standards. A more comprehensive report will be public in several weeks.”

This emphasizes the importance of every report fire service personnel write. In this situation the person who documented the maintenance for the vehicle may have his
or her career on the line as a result of this one incident. Proper documentation is essential to the fire service.

Incident command system (ICS) forms are typically not used on a routine basis and in some instances not used at all. The ICS forms are standardized forms used to document information during a major incident. In declared emergencies by the state and federal government, ICS forms are required for reimbursement from state and federal agencies. The ICS forms can also be used as documentation of what the agency did during the event and could be used in a litigation setting.

Fire incident reports are one of the most common forms used in the fire service. The fire incident form is used to document the incident. The form includes checkboxes, fill-in the blanks and a narrative. The narrative gives a detailed explanation of what happened at the incident.

The results of the survey illustrate that there is a lack of any formal training program for the completion of these and other forms, lack of training materials available, and lack of time dedicated to technical writing training. However, the results of the survey indicate that the respondents are willing to dedicate time to conduct a technical writing course.

Organizational Implications

Estero Fire Rescue has set a goal to become an accredited fire agency. Coleman (2006) illustrates the lackluster of report writing when fire agencies in most occasions check the yes in the performance document section of the fire accreditation self assessment process. Chief Coleman cites that most agencies do not evaluate their
documentation to an extent of any meaning. In order to effectively perform an appraisal of an agency’s performance; they need to measure the outcomes of their program to determine if a difference has been made. It is difficult to evaluate your performance when the standard of expectation of the report has not been established. In addition, the reports at Estero Fire Rescue lacks the appropriate documentation.

The survey results and the literature that was reviewed have not revealed a standard form of documentation. EMS has established a standard form for documentation and has used a quality assurance program to ensure the documentation has completed appropriately. The fire service has not excelled to this level of documentation.

Summary

The relationship between the study results and specific findings of others was discussed in this section. The author’s interpretation of the study results was presented in this section. The organizational implications were stated in this section.

Recommendations

Overview

This section will support the data that was collected. The recommendations listed are related to the stated problem and purpose in this section. Future readers will find the recommendations for their organization documented in this section.

Problem Statement Review

The problem this paper was to document was the lack of a formal training program on technical writing skills. As noted earlier, there are a number of documents that Estero Fire Rescue personnel need to complete. Technical writing skills are an
inherent ability that is required among the personnel of Estero Fire Rescue personnel. Currently those skills are below normal. A technical writing training program that focuses on fire department documentation is not available to Estero Fire Rescue.

Purpose

The purpose of this research was to define the elements needed for a training program on the technical writing skills for fire department forms. Further, at the completion of this research a training outline will be developed to utilize at Estero Fire Rescue to train our personnel on technical writing for fire department documentation.

A training outline was developed for Estero Fire Rescue to train personnel in technical writing skills for reports (see Appendix C). The only resource available for reporting writing for the fire service that is current is a text by Hess and Wrobleski (2002) *For the Record: Report Writing for the Fire Service*. This book will be adopted as the resource manual for the training program. The length of the program was limited to eight hours. The amount of hours may increase in time as the program develops.

It is the author’s recommendation to continue to build on the technical writing skills training program and develop a manual designed for fire service personnel on technical writing skills.

Summary

This section supported the data that was collected. The recommendations listed were related to the stated problem and purpose in this section. Future readers will find the recommendations for their organization documented in this section.
References

Coleman, R. (February 2006) *Fire Service Improvement Tied to Rules of Evidence* Fire Chief

Cornell, J. (December 2005) *Writing Skills Needed* Fire Engineering


Introduction to the National Fire Incident Reporting System - NFIRS 5.0 (2000) United States Fire Administration

National Fire Incident Reporting System (January 2002) NFIRS Program Manager Toolkit, U.S. Fire Administration


Appendix A
EFO Applied Research Survey EAFSOEM

EFO Applied Research Survey EAFSOEM
As part of the requirements for the EFO program, I am required to complete an Applied Research paper. This survey is to gain a better understanding of the training programs departments currently use to instruct technical writing for fire service personnel. The survey is designed to take less than 10 minutes of your valuable time.

1. What forms do your firefighter personnel currently complete? Circle all that apply.
   a. Fire Reports
   b. Inspection Reports
   c. Fire Investigation Reports
   d. ICS Forms
   e. Maintenance Forms

2. Do you have a training program in technical writing skills?
   a. Yes
   b. No

3. How long is your technical writing skills training program?

4. Please describe your training program or paste the outline in the box below.

5. What written material do you use as part of your training program? Is there a specific book you use as part of the program? Please describe.
6. If you were to implement a technical skills writing program, how much time would you dedicate to a class?

7. Would you consider purchasing a book designed to help teach technical writing skills?
   a. Yes
   b. No

8. If you would consider purchasing a book, does it have to be fire service oriented?
   a. Yes
   b. No
   c. Preferred Fire Service Oriented
   d. Does Not Matter

Thank you for participating in the survey. If you have any materials in regards to technical writing skills for firefighters, please forward to me via:

e-mail: lindsey@esterofire.org

or

snail mail:
Jeffrey T. Lindsey
Estero Fire Rescue
21500 Three Oaks Parkway
Estero, FL 33928
239-390-8000

THANK YOU!
Appendix B
NFIRS

NFIRS 1 - Basic Module

The Basic Module is used for every incident. State agencies that are responsible for incident reporting will determine which optional modules (EMS, HazMat, Wildland, Apparatus, Arson) are required to be submitted.

- If the state does not mandate the use of optional modules, the local fire department may still elect to use the module(s).

NFIRS-1 includes information on:

- Fire Department Identifier
- Location
- Incident Type
- Aid Given or Received
- Dates And Times/Shifts/Special Studies
- Actions Taken
- Dollar Losses And Values
- Casualties
- Hazmat Releases
- Property Use
- Persons and Entities Involved

For certain incident types, NFIRS 1 is the only module that must be completed:

- confined fires, i.e. food on stove
- small vegetation fires
- outside rubbish fires
- explosions
- some “other” fire types
- non-fires

This feature meets the need for an abbreviated method of incident reporting for those fires and other emergencies routinely encountered by the fire department.

NFIRS 2 - Fire Module
The Fire Module is used for any fire that extends beyond a non-combustible container. It would be used to record information on incidents involving fires, including buildings, outside storage fires, vehicle fires, and larger vegetation fires. As an option, the wildland module can be used for vegetation and other outside fires. Building fires require the use of the Structure Fire Module.

NFIRS–2 includes information on:

- Property Details
- On-Site Materials
- Ignition: Area, Source of Ignition, Material Ignited, Factors Contributing, Human Issues, Equipment Involved
- Human Factors Involved
- Mobile Property Description
- Fire Origin and Spread Description
- Fire Suppression Factors

NFIRS 3 - Structure Fire Module

The Structure Module is used in conjunction with the Fire Module for building fires which extend beyond a non-combustible container (Incident Types 111 and 120s). The Fire Module provides greater details about the property involved and the Structure Fire Module furnishes information regarding the buildings involved in the fire, how the fire started, and detection and suppression equipment present.

The Structure Fire Module, through its available data fields, provides a means to extensively describe larger fire incidents.

NFIRS-3 includes information on:

- Structure type
- Building status, height, main floor size
- Fire origin, fire spread, number of stories damaged by flame
- Material contributing to flame spread
- Presence of detectors, detector type, detector power supply, detector operation, detector effectiveness, detector failure reason
- Presence of automatic extinguishment system (AES), type of AES, AES operation, AES effectiveness and AES failure reason

NFIRS 4 - Civilian Fire Casualty Module

The Civilian Fire Casualty Module captures data regarding any civilian (non-fire service) casualty associated with fire-related incidents. An entry in H1 of the Basic Module will initiate the completion of this module.
The Civilian Fire Casualty Module is designed to provide a better understanding of human reaction to fire. Not just major fires, but those likely to be encountered by the fire department on a more frequent basis. In this way, public safety education programs can be targeted to address these behaviors. Furthermore, building codes can be modified in recognition of how people will likely react in fire conditions.

NFIRS-4 includes information on:

- Person's identification
- Demographic information
- Injury causes, including human and contributing factors
- Activity when injured
- Location when injured
- Symptoms and portion of body injured
- Disposition

NFIRS 5 - Fire Service Casualty Module

The Fire Service Casualty Module is used when fire service personnel suffer an injury, fall or exposure involved with any incident. When the Fire Service Casualty Module is used, at a minimum the Basic Module must also be completed. Other modules may also be required depending on the incident type.

An exposure is when fire service personnel are exposed to a toxic substance or harmful physical agent through any route of entry (e.g., inhalation, ingestion, skin absorption, or direct contact). Exposures can be reported regardless of the presence of clinical signs and symptoms.

Firefighter casualty information can be used by Health and Safety Officers to reduce risks at incidents.

NFIRS-5 includes information on:

- Person's identification and age
- Injury time
- Assignment and activity at time of injury
- Severity of injury and disposition
- Location of victim when injured
- Symptoms and portion of body injured
- Cause of injury, factors contributing, object involved
- Where injury occurred
- Equipment profiles
NFIRS 6 - EMS Module

The optional EMS Module is used to report all medical incidents to which a department responds.

- The EMS module does not replace the Civilian Fire Casualty Module in cases where a civilian injury or death occurs as a result of fire.

- Data on fire service injuries or deaths are reported on the Fire Service Casualty Module.

Whenever an "Incident Type" in the 300 series (i.e. 311, 322, 371, etc.) is entered on the Basic Module Section C, the EMS Module may also be completed. It may also be completed for injuries which occur at other incidents.

One EMS Module should be used for each patient and the number of modules submitted for an incident should match the "Number of Patients" entered in block B of the paper form.

NFIRS – 6 includes information on:

- Incident location and type
- In service dates and times
- Provider assessment
- Victim demographics
- Injury/illness description
- Procedures used
- Safety equipment involved
- Care level
- Patient status and disposition

NFIRS 7 - HazMat Module

The "optional" Hazmat Module is used when the Basic Module (Block H3 - Hazardous Materials Release) indicates "other" for hazardous material. Its purpose is to document REPORTABLE hazmat incidents. Generally speaking, a reportable hazmat incident is one in which:

- specialized hazmat resources were dispatched or used, or should have been dispatched or used, for assessing, mitigating, or managing the situation;

  OR

- releases or spills of hazardous materials exceed 55 gallons.
The hazmat module permits hazardous materials incidents to be profiled in depth for incident-management analysis and response-strategy development. It collects relevant information on:

- Hazardous materials identification
- Container information
- Release amounts and location
- Actions taken
- Mitigating factors

NFIRS 8 - Wildland Fire Module

Use the "optional" Wildland Fire Module is when the Incident Type is coded as Forest, Woods or Wildland Fire (Incident Type 141), or a Prescribed Fire (Incident Type 632). In these cases, the Wildland Fire Module would be used in-lieu-of the Fire Module.

NFIRS-8 includes information on:

- Property details
- Fire cause
- Ignition information
- Fire suppression and management
- Mobile property type
- Equipment involved in ignition
- Weather data
- Fuel model at origin
- Total acres burned
- Property management
- Person responsible
- Fire behavior

NFIRS 9 - Apparatus or Resources Module

The Apparatus Module is used as a local option to identify apparatus sent to each incident.

NFIRS-9 includes information on:

- Apparatus identification and type
- Dispatch, arrival, clear dates and times
- Number of personnel
- Use
• Actions taken

If the Apparatus Module is used, the Basic Module must also be completed.

NFIRS 10 - Personnel Module

The Personnel Module is used as a local option to identify personnel sent to each incident.

If the Personnel Module is used, the Basic Module must also be completed.

NFIRS – 10 includes information on:

• Apparatus identification and type
• Dispatch, arrival, clear dates and times
• Use
• Actions taken
• Personnel ID, rank, actions taken

• The personnel module or the apparatus/resources module may be used, but not both.

NFIRS 11 - Arson Module

The Arson Module may be used whenever the Cause of Ignition, (NFIRS-2 E1) is coded as “intentional,” or as “under investigation” without any distinction made as to whether or not a crime has occurred, or a determination of criminal intent. The Arson Module may also be used when the fire is under investigation or in cases where the cause is “Undetermined after investigation”.

The Arson Module may also be used to document juvenile-set fires, whether determined to be intentional or not. This information will permit analysis of juvenile firesetting trends including intervention strategies and repeated activity.

The Arson Module consists of two parts; a local investigation module which permits a fire department or arson investigation unit to document certain details concerning the incident; and a juvenile firesetter section which identifies key items of information that could be used for local, state and national intervention programs.
The NFIRS-11 includes information on:

- Agency investigating the incident
- Case status
- Suspected motivation factors
- Entry methods, devices, other information
- Property ownership
- Laboratory used

Juvenile Firesetter Module

This portion of NFIRS 11 may be used to document information concerning juvenile-set fires, whether determined to be intentional or not.

This information will permit analysis of juvenile firesetting trends including intervention strategies and recidivism.

- This module is completed only for fires where the person(s) involved in the ignition of the fire was a child or juvenile under the age of 18.

The Juvenile Firesetter Module includes information on:

- Age, gender, race and ethnicity of each juvenile involved
- Family type
- Suspected motivation and risk factors
- Disposition

NFIRS 1S – Supplemental Form

This form adds flexibility to any paper-based incident reporting system by expanding the amount of data that can be collected. One section of the form provides a standard means to capture name/address/telephone data regarding several persons/entities involved in an incident. The other section of the form furnishes space for additional remarks or narrative relative to an incident.

The Narrative Report

The incident report serves as an official, legal record of an incident and must accurately describe the incident and the actions taken to mitigate it. While many of these facts may be collected in uniform, coded fields – some information can best be presented in a detailed narrative. Information that should be included in the narrative includes:
• Observations and actions taken – list them in logical order (usually chronological). Paint a complete picture of the scene; summarize the incident.

• Describe the scene conditions and the condition of the premises when you left.

• Describe property damage and remaining hazards.
Appendix C
Outline of Technical Report Writing Training Program for Estero Fire Rescue

Introduction
Types of Reports
1 hour

Inspection Reports
Fire Incident Reports
Fire Investigation Reports
Maintenance Reports

Chapter 1
Content of the Report
1 hour

What
Where
When
Who
How
Why

Chapter 2
Five Basic Steps of Report Writing
1 hour

Gather the facts
Record the facts
Organize the facts
Write the report
Evaluate the report
<table>
<thead>
<tr>
<th>Chapter 3</th>
<th>Composition</th>
<th>2 hours</th>
</tr>
</thead>
<tbody>
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<td>Spelling</td>
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<tr>
<td></td>
<td>Grammar</td>
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</tr>
<tr>
<td></td>
<td>Punctuation</td>
<td></td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Narrative format</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>Using SOAP for narratives</td>
<td></td>
</tr>
<tr>
<td>Review</td>
<td>Review and writing exercises</td>
<td>2 hours</td>
</tr>
</tbody>
</table>