

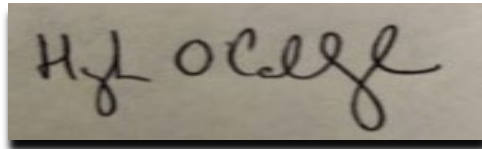
Risk Reduction Through After-Action Review

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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 appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

A rectangular box containing a handwritten signature in black ink. The signature appears to be "H. J. O'Connell" written in a cursive style.

Signed:

Date: 12/4/18

Abstract

The problem that initiated this applied research project (ARP) was that the Hamden Fire Department had no formal after-action review process. The purpose of this applied research project was to identify how the Hamden Fire Department can develop a formal after-action review process to help reduce risk during emergency operations. Action methodology guided the following research questions: (a) What process do other fire departments from the United States use to conduct after-action reviews? (b) What types of risk reduction can the Hamden Fire Department expect from an after-action review process? (c) How will the Hamden Fire Department implement an after-action review process? The procedures used to collect data were an external nationwide questionnaire delivered to fire officers and an internal questionnaire that was distributed to current Hamden Fire Department fire officers at the rank of lieutenant, training officer, captain, battalion chief and Fire Chief. The results revealed that it would benefit the Hamden Fire Department to develop and implement a formal after-action review process. The findings determined that the process would assist the Hamden Fire Department in reducing risk to members while also improving emergency operations. It was recommended that a wide range of topics be covered in a formal after-action review process to reduce risk to Hamden Fire Department members and that Hamden fire officers of all ranks should present after action reviews.

Table of Contents

Certification Statement.....	2
Abstract.....	3
Table of Contents.....	4
Introduction.....	5
Background and Significance.....	7
Literature Review.....	10
Procedures.....	22
Results.....	24
Discussion.....	26
Recommendations.....	29
References.....	31
Appendix A External Questionnaire.....	34
Appendix B External Questionnaire Responses.....	36
Appendix C Internal Questionnaire.....	39
Appendix D Internal Questionnaire Responses.....	41
Appendix E Hamden Fire Department After Action Review: Company Officer Report.....	44
Appendix F Proposed Standard Operating Guideline.....	46
Appendix G Hamden Lieutenant Position Description.....	47
Appendix H Hamden Captain Position Description.....	49
Appendix I Battalion Chief Position Description.....	51

Risk Reduction Through After-Action Review

The American fire service has witnessed a rapid growth in calls for service over the last ten years. In 2016, the fire services in the United States responded to over 25,500,000 calls for assistance (United States Fire Administration [USFA], 2018a). The responses varied in nature from complex fires to elderly fall victims. While training in the fire service has improved since the report *America Burning* (1973), it is difficult for company officers, training officers, and fire chiefs to be completely certain that their department is trained for every possible incident and every conceivable situation (USFA, 1973).

Most fire departments have been forced to take an all hazards response posture but have not been able to increase their training budgets to reflect the additional training needs for members that are responding to a wide variety of service calls. In fact, the American fire service not only responds to fire, basic life support (BLS), and advanced life support (ALS) calls, but is now also expected to answer calls for: (a) hazardous materials incidents, (b) active shooter response, (c) severe weather, (d) psychiatric emergencies, and (e) other miscellaneous responses that typically require specialized training.

The fire service has long been considered first responders to local communities and when firefighters arrive on a scene, they are expected to mitigate the situation and bring order for the citizens of the municipality. Firefighters are thrust into situations that can have severe consequences for themselves and the public if the correct decisions are not made in the proper sequence. In many cases, firefighters make decisions that accomplish the task at hand but safety or effectiveness could have been better. These near miss incidents are often talked about by one or two members, while at the scene or shortly afterwards, but the true learning of a dangerous incident is not shared with other department members.

When a questionable incident occurs or when a problem with operations has been identified, the fire service leadership has a responsibility to the members of their organization and the community they serve to find a better, safer way, to perform fire department operations and reduce risk. Company officers, training officers, and chief officers must work together to gather information on incidents so immediate and long-term training can be identified department wide (Marinucci, 2015). As incidents occur, department leadership can examine risk and determine if the department needs a culture shift or if certain types of incidents cause more risk than others.

While perfection is not always possible, the Hamden Fire Department, much like the United States Fire Service, must identify and address areas that need to be improved to ensure that all of our members and citizens are safe. If organizations are not striving for improvement, they are falling behind and this irresponsibility can be a liability to the fire department and the municipality (Baynard, 2012). The members of the Hamden Fire Department are eager to learn. Company officers are increasingly willing to admit mistakes after operations have ceased and these company officers share their mistakes with their own small crews. This concept of sharing operational learning experiences needs to be transferred to the rest of the department through an after-action review (AAR) process.

The problem that initiated this research was that the Hamden Fire Department had no formal AAR process to examine incidents and improve department operations. The purpose of this research project was to study what the fire service industry is doing to reduce risk through an AAR process. Action methodology guided the following questions: (a) What process do other fire departments in the United States use to conduct after-action reviews? (b) What types of risk

reduction can the Hamden Fire Department expect from an AAR process? (c) How will the Hamden Fire Department implement an AAR process?

Background and Significance

The Town of Hamden, Connecticut is located in New Haven County and is approximately 33 square miles in dimension. The assessed population of Hamden is 62,000 people living in an assortment of residences including single-family, multi family, and high-rise buildings. When higher education organizations are in session, the Town of Hamden experiences an upsurge in population due to the two universities within the boundaries of the town. The universities, Quinnipiac and Southern Connecticut State, have a combined-on campus enrollment of approximately 16,000 students. The median age in Hamden is 37.4 years old and the median household income is \$71,000. Hamden's unemployment percentage of 3.7% is slightly below the Connecticut average of 4.5% (United States Census Bureau, 2018, p.1).

The HFD answers over 11,800 calls for service every year with the majority of those calls being medical related. The five career fire stations are tactically placed throughout Hamden to shorten response time and spread fire department assets. The HFD responds to the Wilbur Cross Parkway that travels from north to south through Hamden and has a daily volume exceeding 69,000 vehicles (Connecticut Department of Transportation [DOT], 2016, p. 18). The National Railroad Passenger Corporation, Amtrak, has numerous miles of transportation rail that travels through Hamden and transfers a wide variety of cargo including hazardous materials, dry goods, and people. The HFD is the main response organization for accidents relating to highways and rail lines within the borders of Hamden.

The Fire Suppression Division is made up of 92 fire service personnel that operate on four shifts in a 24/72-work schedule. Each shift has 23 career firefighters on duty at all times

and of the 23 firefighters on duty, seven are fire officers. The front-line apparatus includes: (a) three pumping engines, (b) one squad, (c) one tower ladder, (d) one quint, (e) two ALS rescues, and (f) one battalion chief vehicle.

The major responsibilities of the HFD are fire suppression and emergency medical service (EMS) at the paramedic level. While the organization is trained to respond and deliver service in hazardous materials events and varied technical rescue, these circumstances make up a small ratio of the department's calls for service but expose firefighters to significant risk. The majority of the call volume in the HFD is for emergency medical services at 72% (National Fire Incident Reporting System, 2016, p. 2).

Since 2002, the HFD has witnessed a 41% rise in calls for service and despite this growth, no new firefighters have been added to the minimum staffing of 23. In this same time frame, the population of Hamden has grown by over six percent and this upsurge does not include the approximately 16,000 college students that live in Hamden throughout the school year. Due to the extra population and increased calls for service, engine companies and rescue companies are finding themselves committed to emergencies when additional calls for service are dispatched in their primary response area. With companies habitually out of place, the department is increasing the unintended delay of fire, medical, and technical rescue response. Additionally, emergency vehicles are traveling longer distances in emergency mode increasing the risk for accidents and injury.

The Hamden Fire Department recognizes an increase in call volume and firefighters being hurried while trying to end one emergency before going on to the next one. Prevention methods are currently in place for citizen risk reduction to fires, falls, and assorted accidents, which, in theory, should help lessen call volume. Lowering the call volume would put less stress

on the response system and allow fire officers to slow down when operating on calls for service. In the meantime, the department must look at a process that can identify areas that need improvement to immediately reduce the risk to members and the public. The problem was the HFD has no process in place to reduce risk to firefighters from mistakes made in the field or lack of specialized training throughout the Department.

While fires are down historically in Hamden, there is a need to examine the risk at fires and other high-risk incidents so that the department can identify mistakes and the areas where it can become more proficient to reduce risk to the firefighters and civilians. Managing emergencies is important for several reasons but none more important than life safety. During the two-week class, Executive Analysis of Fire Service Operations in Emergency Management at the National Fire Academy (United States Fire Administration (USFA), 2016), it is taught that clarity in rolls, good communication, and clear points of contact during an incident allows for better, safer operations and accountability (p. 1-31). Emergency scenes are chaotic and sometimes out of control but through good observations and department report writing, risk can be reduced to firefighters and civilians through well assembled after-action reviews. These after-action reviews will allow for better training and permit department leaders to observe trends in the operations of emergency scenes. This will ultimately reduce risk by bringing to light the correct way of performing operations or identifying where the department needs to focus the training and strategic planning.

This ARP was designed to develop a method that would assist the HFD with developing an AAR process and standard operating guideline for the AAR. This research also provides a direct link to the United States Fire Administration's (2014) strategic framework goal number two, improve local planning and preparedness. One of goal two's key initiatives is ensure that

local level responders are well-prepared and trained to high standards to ensure proper emergency management and the safety of firefighters and civilians (USFA, 2014). The future successes of the Hamden Fire Department are dependent upon the cooperation of all members in finding a better way of performing acts that reduce risk during operations.

Literature Review

Beginning in October of 2018, a literature review was performed utilizing multiple resources from the National Fire Academy, Hamden Fire Department computer-based programs and data, and current publications. The intent of this literature review was to examine how authors of past work remark on the importance of after-action reviews and how the past pieces describe how risk is reduced through after-action reviews.

While reviewing the literature, it was determined that the fire service uses many terms for after-action reviews including: (a) incident critique, (b) after-action report, and (c) critical incident analysis. For the purpose of this applied research, the term after-action review will be the common expression used to describe the process of factually reviewing incidents for the focus of identifying organizational learning and areas where risk can be reduced.

There have been many exceptional research papers, articles, and books developed for the purpose of the after-action review process. Numerous authors have documented the importance of the AAR for not only a specific organization, but the fire service as a whole. Equally important to performing AARs is the structure of the delivery and how the review is presented to the audience. Theil and Jennings (2012) write that learning from experience is an important component of training firefighters for the future. Almost every fire department does some sort of AAR, either formal or informal, after every major incident. While these AARs are helpful to the organization performing them, without a structured policy in place, the AAR does not

consistently flow and information that was shared in previous AARs might not be distributed in current AARs (Theil & Jennings, 2012).

Having a formal policy for a department AAR will ensure that every incident review covers topics that are not only important to leaders in the fire department but the firefighters that carry out the tasks during incidents as well (Avalo, 2008). The policy that is developed for the organization should take into consideration the thought process of the entry level firefighter as well the firefighter that has been employed for several years. The lessons learned from the AAR will be useless unless those participating in the review can understand why the review is done and what the purpose of reducing risk means to firefighters and the citizens in their communities (Theil & Jennings, 2012).

When an AAR is performed properly, it is a high-quality training tool that will enhance customer service and risk reduction during future operations. A properly developed AAR and complimenting policy should include several considerations such as all members involved in the incident should be included in the review through their chain of command and their input must be considered (Carter & Rausch, 2017). Theil & Jennings (2012) indicate the area where the AAR is performed must be similar to a teaching environment. The area should be clean and comfortable. There should be audiovisual aids and the proper number of handouts should be available for those participating. The tone set by the person delivering the review must be nonthreatening and honest dialogue is key. There should be no finger pointing at firefighters or fire companies and questions that lead the review away from learning should be held until the appropriate time. According to Theil and Jennings (2012), an AAR should be recorded using good notes and all of the handouts and presentation material should be gathered so that the information can be used for training at a later time. A follow up process must be used to ensure

that lessons learned from the AAR are being implemented and risk is being reduced through the AAR process (Theil & Jennings, 2012).

It is essential to make sure lessons from past incidents are included in training for the entire department. The departments policies and procedures must also be referenced to ensure that they reflect the lessons learned and if needed, the policies or procedures must be reviewed (Carter & Rausch, 2008). When a problem is identified with standard operating guidelines (SOGs) and or a standard operating procedures (SOPs) during an AAR, the department has a responsibility to change the policy to reflect lessons learned to help fire officers reduce risk to employees. Opinions alone are not enough to change SOPs but research and documentation must be included to ensure change is based on facts and best practices throughout the fire services industry (Stowell, 2009).

Once new SOPs and SOGs are drafted, they should be reviewed by the fire officers that took part in the AAR and brought the changes to fruition. These fire officers should be able to review the new policy before it is implemented and enforced by the department (Ward, 2015). Failure for fire officers to follow these new policies undermines the AAR process and continues to place firefighters in situations that have been determined to be a risk. This attitude of picking and choosing policies to follow also sets a bad example to firefighters that will now feel as though they too have the right to stray from department policy (Ward, 2015).

While Ward (2015) feels the main point to the AAR process is to learn from mistakes made immediately after an incident, others believe that an AAR process allows department training divisions to improve the safety of firefighters and reduce risk in the future. Aside from identifying a mistake made during an operation, training officers will be able to examine AAR documentation and presentations to build training programs and develop knowledge, skills, and

abilities testing to ensure the organization is learning together (Clausing, 2012). Safety problems identified in the AAR process can be corrected and new training can reinforce the new behavior that has been identified as less of a risk to firefighters. If a future AAR determines the same unnecessary risks are still being taken by firefighters, more training must be conducted in the classroom, during company training, and with practical skills stations to ensure the new desired tactics and tasks are understood and implemented (Joos, 2009).

If employees are allowed to continue operating in a manner that has been determined to be unsafe and demonstrates unnecessary risk, the municipality in which the firefighter works can be held liable and therefore sued (Varone, 2012). The employer of the firefighter can be sued for its own negligence for not properly training firefighters. Having AARs that continuously show improper emergency operations that were identified in the past, would be considered damning evidence to any organization (Varone, 2012). Additionally, Varone (2012) teaches that there is a distinct difference between negligence and recklessness. Negligence involves ignoring the normal standard of care that is provided by firefighters everyday versus recklessness that is considered willful and wanton behavior. Varone (2012) states that recklessness is determined when a firefighter or chief officer knows the act is wrong, “the actor had knowledge that harm was likely to result from his behavior and consciously chose to act despite the risk” (p. 260). The AAR is designed to not only protect firefighters and civilians from future mistakes and risk, but it is also intended to protect the municipality from liability and expense (Baynard, 2012).

Several firefighters have been seriously injured or killed during emergency operations that were investigated by the National Institute for Occupational Safety and Health (NIOSH). During these investigations NIOSH (2018) determined that there were several common factors that contributed to severe injuries or death of firefighters. The five most common factors were:

(a) improper risk assessment, (b) lack of incident command, (c) lack of accountability, (d) inadequate communications, and (e) lack of SOP or failure to follow established SOPs (NIOSH, 2018, p. 2).

NIOSH (2018) reports, if fire departments know these five common causes of injuries and fatalities on emergency operations, it should allow risk assessment to be performed by the fire service and more specifically, local fire departments. NIOSH (2018) recommends firefighters and training officers use the online training section, *Fire Fighter Fatality Investigation and Prevention* (2018) to prevent the same incidents that caused serious injuries or death to firefighters in the United States. NIOSH (2018) goes on further to say that when NIOSH investigates a line of duty death, a comprehensive investigation is performed by trained professionals and the results are documented on their website for review. The documentation of these line of duty deaths has several important sections, but the first two, executive summary and contributing factors, give a brief synopsis of the incident and what contributed to the firefighter's death. The third section, key recommendations, in the document offers recommendations for reducing risk for future incidents. The key recommendations section does not point fault or mention specific people or fire companies when making recommendations for improvement (NIOSH, 2018).

The United States Forest Service (2018) has performed many after action reviews and teaches us that a good AAR process leads to improved performance and greater situational awareness among firefighters while performing operations. The firefighters that are performing tasks in the field can expect an AAR to be performed and they are aware they will be included in the process. Firefighters will be asked what actions they took during the operation and what were the results from those actions. Other questions that may be posed to the firefighters in the

field are what challenges they anticipated and what did they learn from certain situations they found themselves in (United States Forest Service, 2018). With an AAR process being done at every major incident, firefighters understand they should be learning from past experiences and paying attention to what is going on now, improving their situational awareness, to help others in future operations (United States Forest Service, 2018).

When an AAR is determined to be necessary there are many steps that should be followed to gather important information. A standardized approach should be utilized by a fire department to ensure the correct information is gathered, presented, documented, and distributed to all fire department members (International Association of Fire Chiefs [IAFC], 2009). The standardized approach should be provided to department members through an SOP that has been designed by senior fire officers with input and participation from company officers. The importance of an SOP should not be understated because of the uniformed way an AAR should be presented. All members of the department must be able to follow along easily during an AAR and company officers are expected to be able to present an AAR that has a structured outline that is consistent from incident to incident (Theil & Jennings, 2012).

The SOP used by the fire department should include several sections and be reviewed by the fire administration before release into the department for enforcement. The purpose of the AAR policy should be short, easy to understand, and straight to the point. If SOPs become too long and wordy, the reader tends to lose sight of the intent and being able to recall the SOP will be difficult (Angle, 2016).

While the SOP is important to provide structure and rules for fire department leaders to reduce risk and provide learning during an AAR, Schein (2010) tells indicates that leadership should also be changing the culture of the organization so that safety is the norm. When rules

are learned, it is sometimes difficult to know where and when these rules were formulated, what the intent was, and how they are relevant to us today (Schein, 2010). Many organizations allow employees, led by supervisors, to be a part of yearly reviews and updating to policies and regulations. This inclusion allows the organizational culture to shift towards safety by allowing individuals that perform tasks to be involved in employee development, learning processes, and forecasting models. Supervisors must then be a part of enforcing the new culture to existing and future employees to ensure that the organization is operating as safely as possible (Schein, 2010).

To reinforce lessons learned from AARs, Achua and Lussier (2013) teach that leaders must understand when and where praise is acceptable. If an employee hears they have done a great job every day for performing only small simple tasks that are easily accomplished, the employee will become numb to praise. Achua and Lussier (2013) also express that when this employee actually does something outside of the normal and receives praise, it loses value and the employee does not really feel as though they have done good work. Employees want to be praised, just not every day, for doing their job (Achua & Lussier, 2013).

When a person does something correct and unsafe habits have changed, Achua and Lussier (2013) recommends telling the employee about the observation and giving the appropriate level of praise. The employee will develop a positive concept, which will lead to better performance. The employee is also likely to tell others about the praise therefore passing on the positive task that was performed. If during an AAR employees are given praise for fixing past problems they are more likely to continue looking for ways to improve. The praise that comes from the supervisor does not cost anything, in fact, it can help save an organization money by improving moral and giving the employees the opportunity to offer suggestions that can improve operations (Achua & Lussier, 2013).

In order to prepare an AAR process, one should first look at the United States (U.S.) military, more specifically the U.S. Army. The AAR process has been utilized by the military for many years and it is still used today to improve officers, soldiers, and operations (Headquarters United States Army, 1993). The AAR is used in the U.S. Army for complex and demanding incidents to ensure soldiers are successfully trained for missions. In order to improve soldiers and leaders' individual and collective task performances the U.S. Army performs AARs to ensure understanding of what happened and what did not happen during every incident (Headquarters U.S. Army, 1993).

The U.S. Army believes that in order for an AAR to be successful, the learning environment must be open to discussion and feel non-threatening.

Key is the spirit in which AARs are given. The environment and climate surrounding an AAR must be one in which the soldiers and leaders openly and honestly discuss what actually transpired in sufficient detail and clarity that not only will everyone understand what did and did not occur and why, but most importantly will have a strong desire to seek the opportunity to practice the task again. (Headquarters U.S. Army, 1993, p. ii)

The U.S. Army (1993) lists several characteristics that should be included during formal and informal review:

- 1- Conducted during or immediately after each event.
- 2- Focus on intended training objectives.
- 3- Focus on soldier, leader, and unit performance.
- 4- Involve all participants in the discussion.
- 5- Use open-ended questions.

- 6- Are related to specific standards.
- 7- Determine strengths and weaknesses.
- 8- Link performance to subsequent training.
- 9- Review of training objectives.
- 10- Summary of recent events (what happened)
- 11- Discussion of key issues (why it happened)
- 12- Discussion of optional issues. (pp. 2-3)

To maximize the effectiveness of an AAR, leaders should begin preparing to present the AAR before an incident occurs. The U.S. Army (1993) states there are four steps to performing a good AAR: (a) Planning, (b) Preparing, (c) Conducting, and (d) Follow up (p.4).

Planning for an AAR is important to a teaching organization for several reasons. During the planning stage of an AAR is where organizations decide what guidelines will be used for assigning an AAR. It is also in the planning phase, where decisions will be made as to who performs the AAR and what resources and training aids, they will need to perform the AAR (Headquarters U.S. Army, 1993). Clausen (2012) teaches that good organizational skills in the planning phase of teaching has several benefits including: (a) increased instructor credibility, (b) effective use of time, (c) reduced stress of the instructor, and (d) record keeping.

Preparation for an AAR should include collecting reports and observations from those involved in the incident being reviewed. The U.S. Army (1993) not only prepares the site of the AAR to ensure it is appropriate for learning but goes so far as to perform a rehearsal of the AAR. It is during the dry run that problems can be identified and fixed to make sure the AAR is a good learning experience (Headquarters U.S. Army, 1993). While the environment is important to learning, Powell (1997) instructs us that a lot of thought should go into who the audience will be

for a presentation of any kind. Information must be presented so that the audience can understand it and that they know it is relevant to the work they do. Powell (1997) states, “The members of the audience- not the presenter- are the most important people in a presentation” (p. 141). While preparing for a presentation, the presenter must remember to keep the presentation interesting and moving in the desired direction. By developing solid information and facts along with good speaking skills or visual aids, the instructor will keep the group focused on the learning objectives (Powell, 1997).

While conducting an AAR the U.S. Army (1993) seeks to maximize participation by allowing for questions and answers from any audience member. Presenters are taught to focus on training objectives and constantly review teaching points to audience members so to keep the presentation of track. The U.S. Army also believes that record keeping of AARs is important to the success of not only the AAR at hand, but future training situations as well (Headquarters U.S. Army, 1993)

The National Fallen Firefighters Foundation (NFFF), (2011) believes that conducting an AAR directly preceding an incident can also be used as a brief time out to evaluate crew members before going back in service to continue a shift. Those affected by an incident will be allowed to review what happened and possibly put the encounter in perspective so as to clear up any misconceptions. Communication during this AAR should also be documented and special attention should be paid to members that might be having a difficult time with a traumatic or disturbing incident (NFFF, 2011).

The follow up of an AAR, according to the U.S. Army (1993), is important to any organization because it is during the follow up phase that leaders will determine if an AAR was successful. If the training received from a previous AAR was not successful and employees are

still putting themselves in avoidable high-risk situations, another AAR should be performed immediately. This additional AAR should focus on the habitual mistakes and provide alternative tasks that reduce risk (Headquarters U.S. Army, 1993).

According to Clark (1991) the follow up phase from an incident is also the time to make sure all members of an organization have received all of the documents, sketches, photographs, and handouts. Clark (1991) goes on to tell us that if only the group of firefighters involved in the incident learn from the AAR, the organization is not properly protecting the entire department. All members must be advised of operational miscues and deficiencies to ensure that they and their fellow firefighters do not make the same mistakes that were identified in an AAR (Clark, 1991).

After action reviews may also reveal problems with SOPs and SOGs. It is during the follow up phase of an AAR that these problems should be corrected and members of the organization must be advised of the revisions to policies and procedures (Headquarters U.S. Army, 1993). The NFFF (2011) makes several suggestions fire administrations can use to reduce risk to firefighters including: (a) Well written SOPS/SOGS, (b) Working knowledge of best practices, and (c) Good safety practices. While firefighters accept risk and understand firefighting is inherently dangerous, controls must be identified and utilized to ensure everyone gets to go home (NFFF, 2011).

There are four levels of fire officer according to the National Fire Protection Agency (NFPA). Fire Officer I, II, III, and IV are used in the standard *Fire Officer Professional Qualifications 1021* to explain the expectations and responsibilities of fire officers in the fire service. The NFPA 1021 (2014) clearly communicates that fire officers of all four levels must

be able to perform an AAR and the complexity of the AAR is dependent on the fire officers' level. According to NFPA (2014) the lowest level of fire officer, level I, must be able to:

Develop and conduct a post-incident analysis, given a single unit incident and post-incident analysis policies, procedures, and forms, so that all required critical elements are identified and communicated, and the approved forms are completed and processed in accordance with policies and procedures. (p.9)

While the lowest level of fire officer is expected to develop and AAR for a fire company, the highest level of fire officer, IV, is expected to take information, data, and current fire service trends and develop risk management programs for leadership (NFPA 1021, 2014). The fire officer IV is expected to evaluate current training requirements and all major incidents to ensure new policies and procedures are developed to help reduce risk (NFPA 1021, 2014). While the NFPA (2014) teaches the fire officer IV is an advanced administrative position, it also recognizes the fire officer IV must be involved with major operations to ensure disaster plans, mutual aid, and incident management teams are current and properly designed to offer the community effective protection from all emergencies.

The Hamden Fire Department job descriptions for battalion chief (Appendix I), captain (Appendix H), and lieutenant (Appendix G) clearly correspond with the NFPA 1021 standard. All fire officer job descriptions in the Hamden Fire Department state that officers must be able to speak in public and provided educational materials to members of the community. Included in the job descriptions is that fire officers must be able to instruct firefighters at the company level and present information to provide knowledge of modern firefighting practices (Hamden a, b, c, 2014).

In summary, the literature review signified that there is a necessity for an after-action review process in the fire service to reduce risk. Centered on the information received during year three of the Executive Fire Officer Program in the Executive Analysis of Fire Service Operations in Emergency Management course (USFA, 2016), transformations to the American fire service over the previous few decades, and the predicted future of the emergency services, an after-action review process is vital to reduce risk to firefighters, the community, and the fire service as a whole.

Procedures

Action methodology was used to steer the data gathering and development of two questionnaires that were planned and disseminated to external (Appendix A) and internal (Appendix C) fire officers exceeding the rank of firefighter. The external questionnaire (Appendix A) was designed so that the data would reflect fire departments from across the United States and that no department would be represented twice. The questions were proposed to decide if fire departments were already presenting after-action reviews and what parameters were being used to present them. Questions were also presented to determine who performed after-action reviews and what documentation, if any, was kept for future training. The external questionnaire (Appendix A) also requested the types of incidents the responder felt would require an after-action review and if they felt after-action reviews successfully identify areas for improvement while reinforcing proper procedures.

Once the external questionnaire (Appendix A) was designed, it was distributed to fire officers above the rank of firefighter. The departments chosen were from numerous regions in the United States and no organizations were selected outside of the United States. No departments received two questionnaires to avoid duplication of responses.

The number of external questionnaires (Appendix A) distributed by email with a link to Survey Monkey was 27. These 27 questionnaires were emailed to fire department members and it was requested that the questionnaire be finished within one week and submitted to the Survey Monkey website. There were 19 questionnaires returned and tallied by Survey Monkey for a return rate of 70.37%.

In order to fully understand the difficulty of not having an after-action review process in the HFD, it was necessary to receive feedback from those the process would serve. An internal questionnaire (Appendix C) was devised for all fire officers in the HFD between the rank of lieutenant and fire chief. The internal questionnaire (Appendix C) was centered on what effects an after-action review process would have on the HFD and the recipients as fire officers. The questionnaire also invited input from fire officers to decide if an after-action review process would help reduce risk to firefighters and civilians. The last part of the questionnaire allowed fire officers to decide what rank should present the different types of incidents and volunteer to be on a committee that designs an HFD after-action review SOP. Once the internal questionnaire (Appendix C) was ready, it was sent out via HFD email with a link to Survey Monkey. It was asked that the questionnaires be completed at the receiver's timeliest convenience and submitted to Survey Monkey to be counted. The questionnaire went out to 29 fire officers in the HFD and 20 responses were returned for a return rate of 68.97%.

The research had limitations that should be contemplated with respect to this research project. The first limitation was not exploring the possibility of the firefighter labor group and possibility of additional working hours for off duty research of an after-action review. The second limitation was that the questionnaires were not produced by an expert company or tested for reliability.

Results

In order to fully investigate this applied research project, three research questions had to be answered. Information was collected from scholarly sources and facts were gathered through career firefighters from around the United States. This results section of the ARP reviews the findings of research finished between October of 2018 and November of 2018.

The research questions were developed to guide information collection for this APR. The first research question asked: (a) What process do other fire departments from the United States use to conduct after action reviews? One hundred percent of the respondents to the external questionnaire (Appendix B) stated their department performs either a formal or informal after-action review but only 42.11% of these stated their department has a SOP or SOG for the process of performing an after-action review. The majority of departments, 57.89%, that responded to the external questionnaire (Appendix B) advised that there was no time limit set for when an after-action review was to be performed in their organization. After a major incident, the responsibility of performing an after-action review was assigned by the incident commander 47.37% of the time, and the company officer was able to assign responsibility 26.32% of the time (Appendix B). The external questionnaire (Appendix B) also revealed that multiple ranks were allowed to present after-action reviews with most departments stating that lieutenants, 36.84% was the lowest rank allowed to present after-action reviews. In 5.26% of the departments that responded, a firefighter was permitted to present information from an after-action review (Appendix B). Record keeping for after-action reviews differed slightly in the respondents with 47.37% stating their department keeps records on after-action reviews, 21.05% not keeping records on after-action reviews, and 31.35% unsure of record keeping (Appendix B).

One hundred percent of the tallied external questionnaires (Appendix B) stated that conducting after-action reviews allows fire departments to successfully identify and communicate areas of achievement, disadvantages, and near misses resulting in a positive impact on future actions. Several incidents were identified by respondents that should be required to generate an after-action review: (a) confirmed residential structure fire, (b) confirmed commercial structure fire (c) technical rescue incident, (d) hazardous materials incident, (e) motor vehicle accident with extrication, and (f) mutual aid incidents (Appendix B).

The second research question asked: (b) What types of risk reduction can the Hamden Fire Department expect from an after-action review process? To answer this research question the external questionnaire (Appendix D) was utilized to determine what types of risk reduction other fire departments from the United States had experienced. The responses to questions nine and ten of the external questionnaire (Appendix D) were most helpful when answering research question two.

One hundred percent of the responses from the external questionnaire stated that they thought conducting after-action reviews allows fire departments to successfully identify and communicate areas of achievement, disadvantage, and near misses resulting in a positive impact of future actions. This reduction of risk can be broken down further using question nine of the external questionnaire (Appendix D). External responses documented that after-action reviews should be conducted to reduce risk in multiple response categories including fires, automobile accidents, and special operations. In 89.47% of respondents stated after-actions reviews should be conducted in confirmed residential and commercial building fires. Additionally, 89.47% stated technical rescues should be considered for an after-action review process. Hazardous materials incidents need an after-action review as well with 78.95% of polled fire service

professionals stating this fact. Sixty eight percent of respondents believe that motor vehicle accidents involving entrapment and extrication should receive an after-action review. While these topics were important to be considered by respondents, only 15.79% felt that motor vehicle fires should receive an after-action review.

The third research question asked: (c) How will the Hamden Fire Department implement an after- action review process? An internal questionnaire (Appendix C) was formulated and distributed to Hamden fire officers at the rank of: (a) lieutenant, (b) captain, (c) battalion chief, (d) deputy fire chief, and (e) fire chief. Distribution was completed by Hamden department email and the web site Survey Monkey. The results from the questionnaire (Appendix D) revealed that fire officers in the Hamden Fire Department feel that an after-action review process is needed in Hamden. The majority of fire officers, 95.24%, felt that emergency incidents in Hamden should be examined with an AAR process. Additionally, 95.24% of fire officers in the Hamden Fire Department believed an AAR process will reduce future operational risk to members and citizens. With 80.95% of respondents being certified as fire service instructors and 85.71% of respondents being willing to participate in drafting an AAR process SOP, the Hamden Fire Department would have staffing to complete the AAR process in Hamden

Using data from the questionnaires, an after-action review process was developed for the Hamden Fire Department. This process with accompanying SOG can be reviewed in Appendix E and Appendix F.

Discussion

The desired outcome from this applied research project was to reduce risk to Hamden firefighters and the civilians served by identifying areas in need of improvement through an after-action review process. The research and literature showed that fire departments are not

only able to improve their operations and reduce risk by performing after action reviews, but organizational knowledge can be passed on to members enhancing our learning organization.

The NFFF (2011) posits that all members of the fire service must think about safety during every operation and planning phase. The values of any department must consider firefighter health and safety as a primary factor. While determining future or current operations or prioritizing resources, the organization must ensure everyone understands their roles and responsibilities. When it comes to safety, there is no excuse for inaction (p.101).

Reducing risk in the fire service through after-action review is imperative to saving lives. Firefighters and firefighting crews that are not able to respond to emergency's due to accidents or not being ready to respond have a zero percent chance of saving lives. In fact, fire companies that are not prepared to assist the other members of the organization during emergency responses puts lives at risk due to increased work load on other firefighters (NFFF, 2011).

Having an SOG for after-actions reviews will also assist in reducing risk to firefighters and civilians. SOPs/SOGs are the cornerstone to systematized, concentrated efforts at crises. All responders must comprehend their value and practice what is scripted (NFFF, 2011, p106). Thiel and Jennings (2012) believe that after-action reviews should be performed to ensure SOPs and SOGs are up to date with best practices and these standards should be reviewed yearly. Additionally, Thiel and Jennings (2011) assert that multiple layers of the organization should be utilized when reviewing after-action reviews and the information that comes out of an after-action review process should be passed on to the remainder of the organization so that training resources can be identified.

After-action reviews are not only for the firefighter performing tasks on the fire ground. Marinucci (2015) explains that all levels of the department should be involved in the after-action

review process so that command officers see how they too can improve their decision making. Command officers should also use the information from the after-action review to look for trends that are potentially harmful to firefighters and civilians so that training can be conducted to change the culture of risk taking towards a culture of safety (Marinucci, 2015).

The after-action review process will reduce risk in many categories by forcing all members of the department to examine the way they perform tasks. All members will be involved in the AAR process and be expected to learn from mistakes and celebrate successes. The timing of the AAR is extremely important to changing behavior. Buckmann (2006) found that fire chiefs and incident commanders must be able to quickly identify areas in need of improvement including response, equipment, and human actions. These mistakes, if not corrected immediately, will be considered normal and the unsafe acts will continue. By identifying missteps and offering the training to reverse the underperforming operations, fire chiefs are reducing risk. This risk reduction through after-action review has a double duty as well. The department will be able to identify proper techniques and celebrate companies that took appropriate measures during operations (Buckman, 2006). Recognition for job performance is often overlooked in the fire service but after-action reviews are a vital component of maintaining support for members of the department. Buckman (2006) teaches us whatever the means of appreciation, the majority of responders will greatly value a simple pat on the back for doing a good job. Most chiefs can identify the advantages of good team morale. In many cases a good working environment makes the difference between an effective response and a response that lacks quality (p. 357).

The Hamden Fire Department responds to 12,000 calls for service annually (National Fire Incident Reporting System, 2016). An after-action review process will assist department members

identifying areas where risk can be reduced, areas of strength and areas where improvement is needed. This reduction in risk will make firefighters and civilians safer as well as allowing fire chiefs to examine operations closer and identifying areas where more staffing is needed or better training experiences can be created. Fire officers in the Hamden Fire Department have stated through the internal questionnaire (Appendix D) that they not only feel an after-action review is necessary but they are willing to develop and deliver the process that creates a policy for future after-action reviews in the Hamden Fire Department.

Recommendations

Based on the findings from the data and literature, the first recommendation was to develop an after-action review process in the Hamden Fire Department. The process should include a department standardized AAR form (Appendix E) and accompanying SOG (Appendix F). Several layers of the Department should be involved in the development of this process and it should be reviewed annually.

The second recommendation was that the Hamden Fire Administration examine reading lists for promotional examines to ensure that fire officers understand risk reduction and know how to properly perform an after-action review. The Connecticut Fire Academy and the National Fire Academy should be consulted to develop a study list that ensures these objectives.

The third recommendation was to set a time frame in which to examine the success of an after-action review process. A critical review of the AAR process should be conducted after one year to determine the effectiveness. The critical review should examine risk reduction, trends, company officer feedback, and command staff recommendations.

The fourth recommendation was an after-action review process should be made a permanent policy in the Hamden Fire Department. This recommendation requires a commitment

from the fire administration as well as members in the department. All members of the organization will need to participate in the AAR process to ensure proper development, review, training, and delivery are being conducted with best practices in mind.

It is recommended that future researchers of related topics to after-action review processes consider that a larger sample group be developed when collecting data. Literature review should begin at the National Fire Academy due to the large number of documents on campus that are available for loan. Data should be gathered from web pages of the NFPA, USFA, and local fire department reports.

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Appendix A**External Questionnaire****After-Action Review Process Research**

1- What is the name of your fire department?

Department Name:

2- Does your fire department perform either formal or informal after-action reviews of emergency operations?

Yes No

3- Does your fire department have a standard operating guideline or standard operating procedure for after-action reviews?

Yes No

4- What is the time frame required for an after-action review to be performed after an incident?

Same Day Next Shift One Week One Month No Time Requirements N/A

5- Who assigns the responsibility of performing an after-action review in your department after an incident?

Company Officer Incident Commander Shift Commander Safety Officer Other

6- What is the minimum rank allowed to perform after action-reviews in your department?

Firefighter Lieutenant Captain Battalion Chief Training Officer N/A

7- Does your department keep the records of after-action reviews to use as a training outline?

Yes No Unknown

8- If an after-action review is performed in your department, who receives the records from the review?

Department Wide Only Companies Involved in After-Action Review Not Distributed

9- What types of incidents, in your opinion, should require an after-action review?

Confirmed Residential Structure Fire

Confirmed Commercial Structure Fire

Motor Vehicle Fire

Motor Vehicle Accident with Serious Injuries

Motor Vehicle with Extrication

Technical Rescue Incidents

Mutual Aid Incidents

Hazardous Materials Incidents

None

Other (please specify)

10- Do you think that conducting after action reviews allows fire departments to successfully identify and communicate areas of achievement, disadvantage, and near misses resulting in a positive impact of future actions?

Yes No

Appendix B

External Questionnaire Responses

After-Action Review Process Research

1- What is the name of your fire department?

Department Name: Chesapeake Fire Department, San Juan Island Fire District 3, Lewisburg Fire Department, Montgomery County Fire Rescue, Indianapolis Fire Department, Lincoln Fire Department, University of Connecticut Fire Department, Stanislaus Consolidated Fire District, West Hartford Fire Department, South San Joaquin County Fire Authority, Harrisville Fire District, Concord Fire Department, St. Bernard Fire District, Hillsboro Fire Department, Hartford Fire Department, Dearborn Fire Department, Raleigh Fire Department, Madison Fire Department, Russeville Fire Department (19)

2- Does your fire department perform either formal or informal after-action reviews of emergency operations?

Yes	No
100%	0%

3- Does your fire department have a standard operating guideline or standard operating procedure for after-action reviews?

Yes	No
42.11%	57.89%

4- What is the time frame required for an after-action review to be performed after an incident?

- | | | | | | |
|----------|------------|----------|-----------|----------------------|-----|
| Same Day | Next Shift | One Week | One Month | No Time Requirements | N/A |
| 15.79% | 15.79% | 10.53% | 0% | 57.89% | 0% |
- 5- Who assigns the responsibility of performing an after-action review in your department after an incident?
- | | | | | |
|-----------------|--------------------|-----------------|----------------|--------|
| Company Officer | Incident Commander | Shift Commander | Safety Officer | Other |
| 26.32% | 47.37% | 15.79% | 5.26% | 31.58% |
- 6- What is the minimum rank allowed to perform after action-reviews in your department?
- | | | | | | |
|-------------|------------|---------|-----------------|------------------|--------|
| Firefighter | Lieutenant | Captain | Battalion Chief | Training Officer | N/A |
| 5.26% | 36.84% | 15.79% | 10.53% | 10.53% | 21.05% |
- 7- Does your department keep the records of after-action reviews to use as a training outline?
- | | | |
|--------|--------|---------|
| Yes | No | Unknown |
| 47.53% | 21.05% | 31.58% |
- 8- If an after-action review is performed in your department, who receives the records from the review?
- | | | |
|-----------------|--|-----------|
| Department Wide | Only Companies Involved in After-Action Review | Not Dist. |
| 55.56% | 16.67% | 27.78% |
- 9- What types of incidents, in your opinion, should require an after-action review?
- Confirmed Residential Structure Fire 89.47%
- Confirmed Commercial Structure Fire 89.47%
- Motor Vehicle Fire 15.79%
- Motor Vehicle Accident with Serious Injuries 36.84%

Motor Vehicle with Extrication 68.42%

Technical Rescue Incidents 89.47%

Mutual Aid Incidents 31.58%

Hazardous Materials Incidents 78.95%

None 0%

Other (please specify) 26.32%

10- Do you think that conducting after action reviews allows fire departments to successfully identify and communicate areas of achievement, disadvantage, and near misses resulting in a positive impact of future actions?

Yes No

100% 0%

Appendix C

Internal Questionnaire

1- What is your current rank?

Lieutenant Captain Training Officer Battalion Chief Deputy Chief Fire Chief

2- How many years have you been a fire officer in the Hamden Fire Department?

0-5 6-10 11-15 16-20 21-25 26-30

3- Do you feel the Hamden Fire Department needs an after-action review process to examine emergency operations?

Yes No

4- Do you feel an after-action review process will assist the Hamden Fire Department in reducing future operational risk to members and citizens?

Yes No

5- Do you currently hold a certification as Fire Service Instructor in the State of Connecticut?

Yes No

6- Have you ever presented an after-action review in the Hamden Fire Department?

Yes No

7- Do you agree with the following statement?

A Hamden Fire Lieutenant should be able to perform an after-action review for incidents involving single box alarms, motor vehicle accidents with extrication of two or less patients, incidents of violence with two or less critically injured patients, small hazmat events and miscellaneous moderate technical rescues.

Yes No

8- Do you agree with the following statement?

A Hamden Fire Captain should be able to perform an after-action review for incidents involving multiple alarm assignments, motor vehicle accidents with extrication of more than three patients, incidents of violence with three or more critically injured patients, hazmat events involving technical level response, and miscellaneous complex technical rescues.

Yes No

9- Do you agree with the following statement?

A Hamden Fire Battalion Chief should be able to perform an after-action review for incidents involving general alarms, mutual aid requests, unified command initiation, hazmat incidents that require operational periods exceeding 12 hours, and miscellaneous critical incidents.

Yes No

10- Would you participate in a committee that is responsible for drafting a standard operating guideline for an after-action review process?

Yes No

Appendix D

Internal Questionnaire Responses

1- What is your current rank?

Lieutenant	Captain	Training Officer	Battalion Chief	Deputy Chief	Fire Chief
55%	20%	5%	15%	5%	0%

2- How many years have you been a fire officer in the Hamden Fire Department?

0-5	6-10	11-15	16-20	21-25	26-30
26.3%	5.2%	42.1%	5.2%	15.7%	5.2%

3- Do you feel the Hamden Fire Department needs an after-action review process to examine emergency operations?

Yes	No
95%	5%

4- Do you feel an after-action review process will assist the Hamden Fire Department in reducing future operational risk to members and citizens?

Yes	No
95%	5%

5- Do you currently hold a certification as Fire Service Instructor in the State of Connecticut?

Yes	No
80%	20%

6- Have you ever presented an after-action review in the Hamden Fire Department?

Yes	No
70%	30%

7- Do you agree with the following statement?

A Hamden Fire Lieutenant should be able to perform an after-action review for incidents involving single box alarms, motor vehicle accidents with extrication of two or less patients, incidents of violence with two or less critically injured patients, small hazmat events and miscellaneous moderate technical rescues.

Yes No

90% 10%

8- Do you agree with the following statement?

A Hamden Fire Captain should be able to perform an after-action review for incidents involving multiple alarm assignments, motor vehicle accidents with extrication of more than three patients, incidents of violence with three or more critically injured patients, hazmat events involving technical level response, and miscellaneous complex technical rescues.

Yes No

75% 25%

9- Do you agree with the following statement?

A Hamden Fire Battalion Chief should be able to perform an after-action review for incidents involving general alarms, mutual aid requests, unified command initiation, hazmat incidents that require operational periods exceeding 12 hours, and miscellaneous critical incidents.

Yes No

100% 0%

10- Would you participate in a committee that is responsible for drafting a standard operating guideline for an after-action review process?

Yes No

85% 15%

Appendix E

Hamden Fire Department After-Action Review: Company Officer Report

Officer Name:

Platoon and Assignment of Officer:

Date of Incident and Incident Number:

Battalion Chief or Incident Commander:

Location of incident and initial size up: _____

Describe your operations (attach pages if needed): _____

What operations would you change: _____

What operations worked well: _____

Hamden Fire Department

After-Action Review

Company Officer Report

Diagram: Show position of units and equipment involved in incident as you remember (vehicles, lines stretched, RIT, incident command post, and any other information you feel important).

N

Appendix F

Proposed Standard Operating Guideline

Hamden Fire Department After-Action Review

Purpose:

The purpose of this standard operating guideline is to establish consistent after-action review process within the Hamden Fire Department. This process will be used to identify areas of strengths and weakness to ensure that Department members are prepared for future incidents of all magnitudes.

General:

The Hamden Fire Department will utilize the after-action review process as a training tool to reinforce strengths and also identify areas in need of improvement. The after-action review will be assigned by the on-scene incident commander and the review will be performed in a timely manner not to exceed three 24-hour shifts. The after-action review will include overall effectiveness of the incident being reviewed and will start the review upon dispatch until the scene is cleared.

Guidelines:

The Hamden Fire Department after-action review is not to be used to punish, blame, or be a part of any disciplinary process. Instead, the after-action review will used as a training tool and informational process to be shared with Department members to ensure organizational knowledge is shared and improved.

Once assigned by the on-scene incident commander, the after-action review will be completed after input from crews operating on the scene has been reviewed. Information should flow through the chain of command to ensure all information in used during the process.

Appendix G

Lieutenant Position Description

TOWN OF HAMDEN Fire Lieutenant

Classified / Competitive
Hamden Fire Department

B.U.: IAFF, Local 2687
Salary Range: Per CBA

Position Definition: Coordinates and leads a firefighter crew in the functional areas of; suppression, prevention, apparatus maintenance, fire alarm and emergency medical services during a shift; also performs administrative duties as assigned by the Battalion Chief, Captain or other supervisor.

Supervision Received: Works under the supervision of the Battalion Chief, Captain or other supervisor who reviews work for conformance with policy.

Supervision Exercised: Supervises Fire Fighters and Paramedics.

Examples of Essential Job Duties: Executes and puts into operation all orders, policies and directions from superior officers to personnel under his/her direct command; when assigned to line duties, shall have the following duties and responsibilities including but not limited to: supervisory and skilled firefighting and emergency work on an assigned shift, immediate responsibility for directing all activities of a fire company on an assigned shift, including responsibility for the station, equipment and activities of the station; responsibility for directing the crew en route to emergency scenes and fires; taking charge of crew and all firefighting operations at a fire or an emergency until the arrival of a superior officer; personal participation in the work of controlling and extinguishing fires, which is usually done under the supervision of a superior officer; supervision of firefighters at the station in fulfillment of their house duties, company training, and equipment testing and maintenance.

Supervises and directs operations of equipment and personnel under his/her command including general laddering of buildings, making necessary preparations with hose lines for interior attack or aerial guns, ventilation of buildings and making forcible entry; puts into operation immediately all orders with respect to rescue, carrying out all procedures necessitated by the emergency and making certain that all procedures are in keeping with the best emergency medical principles; does salvage work; places tarpaulins over furnishings and property to prevent unnecessary damage; supervises and participates in regular routine pre-planning as part of the Department's fire prevention and fire protection program.

Performs related firefighting, fire prevention and pre-planning, and fire protection work as required; supervises the inspection and cleaning of firefighting equipment under his/her control, including giving due notification to the Battalion Chief and Superintendent of Apparatus of all needed maintenance work, and replacement of equipment and supplies on an assigned shift; maintains discipline of subordinate personnel including corrective counseling or verbal warning when required, and supervises the performance of all station duties on his/her assigned shift; performs related duties as required and as assigned by the Battalion Chief, the House Captain, and the Training Officer. Writes reports detailing the actions taken at an emergency scene in accordance with established procedure. Writes accurate training reports producing a record of the training given to subordinates.

Fire Lieutenant (Cont.)

page 2.

Minimum Qualifications Required: The completion of five (5) years' of continuous active service as a paid Firefighter with the Hamden Fire Department.

Knowledge, Skills and Abilities: Complete knowledge of the Incident Command System (ICS), thorough knowledge of modern firefighting tactics as they relate to the Town of Hamden and the resources of the Hamden Fire Department; thorough knowledge of modern firefighting equipment and fire prevention methods; thorough knowledge of common causes of fire and adequate knowledge of salvage procedures; thorough knowledge of the skills necessary in fire fighting and emergency work, including hazardous materials; thorough knowledge of the use of firefighting equipment and other life-saving equipment demonstrated within a reasonable test period; a working knowledge of training methods and techniques; ability to establish and maintain effective work relations with supervisors and subordinates; ability to prepare and execute written instructions; ability to maintain accurate records; ability to plan, assign and evaluate work of subordinates; ability to size-up situations, to think quickly and act decisively in emergencies; ability to maintain discipline and exercise sound judgment, and to lead and supervise firefighters effectively; physical ability to perform arduous work under adverse conditions; ability to direct firefighters and equipment under emergency conditions involving danger to life and property. Also, must have complete knowledge of street system and physical layout of the Town of Hamden, including hydrant locations, and knowledge of the elementary principles of hydraulics.

License or certificate: Must possess a current valid Connecticut drivers license.

Environmental/Special Conditions: Employees in this classification are exposed to life-threatening conditions when responding to fires and hazardous materials incidents and must take precautions to protect self and others. Must be able to work in poor weather conditions, including heat, cold, rain or snow; may be required to make rapid transition from rest to near maximum exertion without warm-up period; may be required to perform heavy manual labor under conditions of extreme personal hazard and under conditions of extreme discomfort due to heat, smoke, etc.

Examination Process: Promotional examinations will be administered pursuant to the Rules and Regulations of the Civil Service Commission. Seniority credits will be added in accordance with Rule 7 of the Civil Service Rules and Regulations.

Note: The above description is illustrative of tasks and responsibilities. It is not meant to be all inclusive of every task and responsibility. Reasonable accommodations may be made to enable individuals with disabilities to perform essential duties.

Approved by the Civil Service Commission on April 21, 2014.

Appendix H

Captain Position Description

TOWN OF HAMDEN Fire Captain

Classified / Competitive
Hamden Fire Department

B.U.: IAFF, Local 2687
Salary: Per CBA

Position Definition: Coordinates and supervises a fire company in the functional areas of; suppression, prevention, apparatus maintenance, fire alarm and emergency medical services during a shift, and performs administrative duties as assigned by the Battalion Chief or other superior officer.

Supervision Received: Works under the supervision of a Battalion Chief, or other superior officer who reviews work for conformance with policy.

Supervision Exercised: Supervises Lieutenants and firefighters.

Examples of Essential Job Duties: Includes the Fire Lieutenant description, with the following additional duties and responsibilities when assigned to line duties; shall command a fire station with duties and responsibilities including, but not limited to establishing and maintaining records of the fire station and equipment, apparatus cleaning and maintenance; supervising and delegating to three Lieutenants assigned to said station, establishing and maintaining station rules pertaining to housekeeping and apparatus cleaning. The Fire Captain may assume command of his/her platoon in the absence of a Battalion Chief, performs work as required or delegated by the Fire Chief or Deputy Chief, including assignment to coordinate departmental projects, according to the needs of the department at that time.

Knowledge, Skills, and Abilities: Complete knowledge of the Incident Command System (ICS), and the ability to manage multi-company operations. Complete knowledge of modern firefighting techniques and tasks as they relate to the Town of Hamden and resources of the Hamden Fire Department; complete knowledge of modern firefighting equipment and fire prevention methods; complete knowledge of common causes of fire and thorough knowledge of salvage procedures; thorough knowledge of the skills necessary in firefighting and emergency work, including hazardous materials; thorough knowledge of the use of firefighting and other life-saving equipment; superior knowledge of training methods, techniques and procedures; ability to establish and maintain effective work relations with superior officers, other Fire Captains, and subordinates; ability to prepare and execute detailed written and oral reports; ability to understand and follow oral and written instructions; ability to maintain accurate records; ability to plan, assign and evaluate work of subordinates; ability to size-up emergency situations, to think quickly and act decisively in emergency situations; ability to maintain discipline of subordinate personnel including corrective counseling or verbal warnings when required, exercise sound judgment, and to lead and supervise lieutenants and firefighters effectively; physical ability to perform arduous work under adverse conditions; ability to direct firefighters, subordinate officers and equipment under emergency conditions involving danger to life and property. Also, must have complete knowledge of street systems and physical layout of the Town of Hamden, including hydrant locations and knowledge of the elementary principles of hydraulics. Writes reports detailing the actions taken at an emergency scene in accordance with established procedure. Writes accurate training reports producing a record of the training given to subordinates.

Fire Captain (cont.)**Page 2.**

Minimum Qualifications Required: The completion of seven (7) years of continuous active service as a paid firefighter with the Town of Hamden Fire Department, of which not less than two (2) consecutive years must have been the grade of Fire Lieutenant.

License or certificate: Must possess a current valid Connecticut drivers license.

Environmental/Special Conditions: Employees in this classification are exposed to life-threatening conditions when responding to fires and hazardous materials incidents and must take precautions to protect self and others. Must be able to work in poor weather conditions, including heat, cold, rain or snow; may be required to make rapid transition from rest to near maximum exertion without warm-up period; may be required to perform heavy manual labor under conditions of extreme personal hazard and under conditions of extreme discomfort due to heat, smoke, etc.

Examination Process: Promotional examinations will be administered pursuant to the Rules and Regulations of the Civil Service Commission. Seniority credits will be added in accordance with Rule 7 of the Civil Service Rules and Regulations.

Note: The above description is illustrative of tasks and responsibilities. It is not meant to be all inclusive of every task and responsibility. Reasonable accommodations may be made to enable individuals with disabilities to perform essential duties.

Approved by the Civil Service Commission on April 21, 2014.

Appendix I

Battalion Chief Position Description

TOWN OF HAMDEN Battalion Chief

Classified / Competitive
Hamden Fire Department

B.U.: IAFF, Local 2687
Salary: Per CBA

Position Definition: Coordinates and supervises Captains, Lieutenants, firefighters, fire companies and stations department-wide in the functional areas of suppression, prevention, apparatus maintenance, fire alarm and emergency medical services during a shift; also performs administrative duties as assigned by the Chief or Deputy Chief.

Supervision Received: Works under the general direction of the Fire Chief and general supervision of the Deputy Chief, who assign work areas and general work to be performed. Work is reviewed for assurance that desired results are obtained and that appropriate care and safety are exercised in operations.

Supervision Exercised: Provides general direction to Fire Captains and general supervision to Fire Lieutenants and firefighters.

Examples of Essential Job Duties: Assists in the planning, directing and supervising of the organization, development, and operations of the Hamden Fire Department; assists in directing the assignment and supervision of department personnel and apparatus; assists in developing and implementing firefighting strategies and tactics as they relate to the Town of Hamden and the resources of the Hamden Fire Department; assists in formulating policy for the training of personnel in the discharge of their duties; may advise the Fire Chief in personnel actions; assists in enforcing departmental regulations governing the administration of the department; proposes modifications of department regulations to meet changing conditions; assists in directing the maintenance of comprehensive records of departmental activities and prepares reports of such activities as required; may assist the Fire Chief in preparing budgets, records, and reports of need and expenditure; and when assigned to line duties, commands a platoon of fire officers and firefighters and assumes responsibility of all firefighting operations, unless relieved by a superior officer, per the Incident Command System (ICS); performs related work as required or delegated by the Fire Chief or Deputy Chief.

Minimum Qualifications Required: The skills and knowledge required are completion of five (5) years of increasingly responsible continuous experience in firefighting with the Hamden Fire Department, of which not less than three (3) consecutive years must have been in the grade of Fire Captain.

Knowledge, Skills and Abilities: Complete knowledge of the Incident Command System (ICS), and the ability to manage multi-company operations. In addition to those required of Captains and Lieutenants, the following knowledge, skills, and abilities shall be required of employees in this classification: knowledge of modern principles of firefighting administration; elementary knowledge of budgeting, purchasing, and office management; ability to plan, assign, and evaluate the work of subordinates and subordinate units in writing; and at the discretion of the Fire Chief or Deputy Chief investigate incident reports and personnel issues, and may be required to make written recommendations for resolution; ability to communicate clearly and concisely through written and oral expression; ability to prepare comprehensive reports and

Battalion Chief (Cont.)

page 2.

maintain accurate records. A working knowledge of the Connecticut State Fire Safety Code, Federal and State Occupational Safety and Health Association (OSHA) regulations, National Fire Protection Association (NFPA) and, Insurance Services Office (ISO) standards.

License or certificate: Must possess a current valid Connecticut drivers license.

Environmental/Special Conditions: Employees in this classification are exposed to life-threatening conditions when responding to fires and hazardous materials incidents and must take precautions to protect self and others. Must be able to work in poor weather conditions, including heat, cold, rain or snow; may be required to make rapid transition from rest to near maximum exertion without warm-up period; may be required to perform heavy manual labor under conditions of extreme personal hazard and under conditions of extreme discomfort due to heat, smoke, etc.

Examination Process: Promotional examinations will be administered pursuant to the Rules and Regulations of the Civil Service Commission. Seniority credits will be added in accordance with Rule 7 of the Civil Service Rules and Regulations.

Note: The above description is illustrative of tasks and responsibilities. It is not meant to be all inclusive of every task and responsibility. Reasonable accommodations may be made to enable individuals with disabilities to perform essential duties.

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