Developing and Implementing an After Action Review Program

For the Westminster Fire Department

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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 be given where I have used the language, ideas, expressions, or writings of another.

Signed: ________________________________
The Westminster Fire Department (WFD) does not have a formal after action review (AAR) program for assessing and evaluating organizational performance. This hampers efforts to benchmark against internal SOGs, recognized standards, and best practices. The lack of a formal AAR program limits progress in developing as a learning organization. The purpose of this ARP is to develop and implement an AAR SOG to be used for assessing emergent and non-emergent activities. The action research methodology was utilized for this applied research project (ARP) and focused on the following five research questions. What is an after action review? What are the positive and negative attributes of an after action review program? What are the applications of an after action review program for the WFD aside from the traditional emergency incident critique? What are the essential data or information elements and components of an after action review? What are the organizational controls necessary to ensure the after action review program is properly utilized? Procedures utilized included a review of current literature for the fire service and from the private sector. An internal and external questionnaire was utilized to determine what the internal interest was in utilizing AARs. The external questionnaire sought feedback in what other organizations are doing for AARs. Results from this research revealed there is no recognized standard for conducting AAR processes. A need exists throughout the fire service for a formalized and structured AAR standard. Two recommendations evolved from this research. One recommendation was the need to develop an AAR SOG for use by the WFD in assessing organizational performance. The second recommendation is to contact the NFPA to ascertain the feasibility of developing a recommended practice for conducting AAR processes.
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INTRODUCTION

Presently the Westminster Fire Department does not regularly utilize after action reviews in assessing and evaluating organizational performance. Not utilizing after action reviews as often as the opportunity presents itself creates a gap in learning opportunities to improve individual, crew, team, and organizational performance.

The problem created by the infrequent use of after action reviews by the Westminster Fire Department is thwarted in its efforts to benchmark against internal standard operating guidelines, nationally recognized standards, and best practices commonly accepted by the fire service. The lack of a formal after action review program ultimately limits opportunities for organizational development and stymies the progress of the Westminster Fire Department as a learning organization.

Developing and implementing an after action review program is the primary focus of this applied research project. The overall goal of this applied research project (ARP) is the development and implementation of a standard operating guideline (SOG) detailing the application of after action reviews for both emergent and non-emergent activities.

The action research methodology is utilized for this applied research project (ARP). The action research methodology is best suited for this applied research project as it cumulates in the development of a standard operating guideline (SOG). A formal SOG will aid in resolving the problem of applying after action reviews in a limited and sporadic fashion. Improving organizational performance is a key element of the action research methodology where by information and methodologies new to an organization contribute to resolving an actual organizational need (Executive Fire Officer Program [EFOP] Applied Research Guidelines, 2008, p II-17).
The phrase “after action review” is also termed a “critique” (Department of Homeland Security [DHS], 2008, p. 1). The term “hot wash” describes an informal crew or unit based after action review process. The use of hot wash in describing an informal critique is popular with the U.S. Army (Major Dustin Bishop, email communication, November 23, 2008). The term hot wash is becoming more prevalent in describing the chalk talk version of after action reviews (Environmental Protection Agency [EPA], n.d., pp. 1, 11). Interestingly the term hot wash is not found in the April 2008, version of *Special Report: The After-Action Critique: Training Through Lessons Learned* published by the Department of Homeland Security [DHS].

For this research, the phase *after action review* will serve as the process description utilized in assessing or evaluating unit, team, and/or organizational performance. Where appropriate for clarity of reference intent, *after action review(s)* and *critique(s)* is used interchangeably in describing the assessment and/or evaluation processes.

The research steps will include a review of current data and references specific to developing after action reviews. The data and references will be examined to determine the essential elements and components of an after action review. Research will explore the necessary organizational controls necessary for the appropriate utilization of after action reviews as an evaluation of organizational or incident-specific performance and for use as an organizational learning tool. A questionnaire will be utilized to gather data from individuals routinely involved in conducting after action reviews.

Research will address five questions. What is an after action review? What are the positive and negative attributes of an after action review program? What are the applications of an after action review program for the Westminster Fire Department aside from the traditional emergency incident critique? What are the essential data or information elements and
components of an after action review? What are the organizational controls necessary to ensure the after action review program is properly utilized?

For brevity and conciseness, and as deemed appropriate, the phrase after action review is abbreviated AAR, indicating the singular use. After action reviews shall be abbreviated with AARs, indicating the plural application.

This applied research project shall apply the Publication Manual of the American Psychological Association, 5th edition, as the style manual, except as noted in the Executive Fire Officers Program Applied Research Guidelines.

BACKGROUND AND SIGNIFICANCE

Westminster Fire Department provides a full compliment of fire-based services to 110,000 residents in the City of Westminster, comprising approximately 34 square miles. Westminster is a suburban community located mid-way between Denver and Boulder, Colorado. The City of Westminster represents itself as a progressive city providing value-based community-oriented services delivered by an innovative team deeply committed to providing high quality services. The 3,100 businesses consist of small, family-owned companies, mid-size manufacturing, service companies, high-tech manufacturers, as well as national and international headquarters. Westminster is unique in that it spans into two separate counties, Adams and Jefferson. Each county presents a diverse array of demographics (City of Westminster, 2008, pp. 1, 3).

A career department, Westminster Fire Department is the largest full-service municipal fire department in the state of Colorado. Incorporated in the concept of providing full-service to the community are services typical of traditional fire protection services enhanced by a fire-based advanced life support (ALS) ambulance transport system. Westminster Fire Department,
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After Action Review Programs are staffed by 143 administrative and operational personnel, providing services through a single operations battalion, operating out of six fire stations. Operational services are delivered with six ALS engine companies, one of which is an 85’ aerial ladder operating as a quint, a 100’ aerial ladder with ALS capability operating as a designed truck company, and five ALS ambulances (City of Westminster, n.d. p, 145).

Presently there is no structured approach to conducting AARs. The few AARs conducted are typically fragmented and managed without a defined purpose or structured process. The majority tend to highlight the who, what, and when, with little emphasis on the why. Internal and external standards receive minimal attention. The general tone is to get through the AAR without embarrassing anyone and to make sure no one questions the overall strategy or tactics employed during the incident. More often than not, this becomes the major objective of AAR. Smith (1994) addresses this issue by stating, “Critical analysis starts with being truthful with ourselves” (p. 18). Without a structured approach and a philosophy of learning, little is learned and the general sentiment from attendees is a reaffirmation that we are very good at what we do (Brunacini, 2002, p. 32; Smith, 1994, p. 16). To facilitate the evolution of transforming into a learning organization there needs to be a better system to assess how good we are, and this is difficult without an effective AAR program.

The benefits derived from an effective AAR program promote one of the key operational objectives of the United States Fire Administration [USFA] in developing a comprehensive, multi-hazard risk reduction plan led by the fire service organization (National Fire Academy, 2008, p. II-2).

Many of the activities, emergency response calls, and program performance measures should warrant some form of AAR. If some form of an AAR were not conducted, there would
be missed opportunities in developing a collaborative process involving all stakeholders in assessing and improving performance. Taking advantage of opportunities to influence the direction of stakeholders is a key leadership objectives prescribed by the Executive Leadership curriculum (National Fire Academy, 2005, pp. 8.2-3).

It would seem to be an obligation of current leaders to learn from the history of our predecessors. Opportunities presented by AAR programs to learn from past actions, influence adaptation of positive outcome-oriented behaviors, embrace safe practices, and appropriate utilization of new technologies directly align with developing effective persuasion skills required of executive leaders, as prescribed by the Executive Leadership curriculum (National Fire Academy, 2005, pp. 14.3-4). Understanding the past will provide clearer focus in establishing future direction for the organization. Utilizing AARs to assess performance and direct the organization into the future is directly relevant to decision-making model detailed in the Executive Leadership curriculum (National Fire Academy, 2005, pp. 4.1-7).

The development and implementation of an AAR program is a significant step in meeting the Westminster Fire Department’s philosophy of being a progressive, innovative, adaptive, and visionary organization (Westminster Fire Department, 2006, pp. 30-31). These characteristics are reinforced through executive leadership and strategic planning in providing services by the City of Westminster (City of Westminster, n.d., p. 36). Expressed in the acronym PRIDE, the fire department’s service values in being adaptive, innovative, demonstrating integrity, utilizing vision, and representing a professional demeanor align with those considered essential for successful leadership, as portrayed in the Executive Leadership curriculum (Westminster Fire Department, 2006, pp. 30-31; National Fire Academy, 2005, p. 3-3).
Understanding the role and expectations of an organization in addressing customer needs is elementary to the management functions of planning, organizing, directing, and controlling (Cochran, 2006a, p. 3). Executive leaders must demonstrate an active role in developing and maintaining a positive organizational culture, communicate a clearly defined mission, and ensure the articulation of organizational values while reinforcing organizational expectations. An overarching sense of purpose and organizational ownership is crucial in fulfilling the vision and service philosophy that have become the basis of evaluation for many organizations (Cochran, 2006a, p.5; National Fire Academy, 2005, p. 1.4). The inability to succeed in the essential executive leadership roles represents “fatal flaws,” often contributing to less than successful performance (National Fire Academy, 2005, pp. 3.4-3.5).

From a global perspective, reaping the optimum benefit from an AAR, or any performance assessment process, justifies formally instituting a structured approach to assess or benchmark against designated organizational expectations. Structured benchmarking enables organizations to employ a strategic approach to organizational learning (Garvin, 2000, pp.191-194). Learning and developing as an individual and influencing learning throughout the entire organization is the basis of the entire Executive Leadership curriculum, which prescribes the essential skill-set necessary for effective executive or strategic leadership performed explicitly by individuals at the “executive-level manager” level within an organization (National Fire Academy, 2005, p. v).

Understanding an organization’s benchmarks, performance expectations, or the tactical objectives, sometimes referred to as strategic or organizational drivers, is often accomplished through a formal plan or standard operating guideline or procedure (Hughes & Beatty, 2005, pp. 120-122; USFA, 1999, pp. 7-8). Solid leadership, particularly from a transformational
philosophy, will enhance the potential for success as leaders seek to influence organizational members to achieve higher levels of performance. The application of AARs to various organizational activities permits executive leaders to apply the principle of transformational leadership in moving organizations through the change process in developing as a more proficient learning organization. Developing as a more effective transformational leader is a defined objective of the Executive Leadership curriculum (National Fire Academy, 2005, pp. 3.10-13). Instituting a structured AAR process will be a positive contribution to organizational efforts in assessing and measuring Westminster Fire Department activities and operations.

LITERATURE REVIEW

Research efforts was initially directed to a review of reference materials in the form of EFOP applied research projects [ARPs], journal articles, and other references. The research was initiated in August 2008 through the Learning Resource Center, while attending the Executive Leadership course at the National Fire Academy, in Emmitsburg, MD.

Several ARPs were found to provide substantial background on the overall value in conducting AARs. Few specifically addressed AAR program development. The ARPs that did relate to ARR program development addressed the organizational barriers represented by respective organizations. With this specific focus, few ARPs were of significant value to this specific research effort.

Utilizing several internet searches, a large number of journal articles were revealed that addressed a magnitude to AAR topics. The challenge was to limit the number to those specifically addressing AAR program development. Additional background references and materials were downloaded from the internet searches. Among the more interesting were those references associated with the U. S. Army and wildfire firefighting.
Several texts discussed the benefits to an organization through the utilization of AARs and critiques. Several references revealed a previously unrecognized term, *hot wash*, sometimes used as a synonym for informal AARs.

From an organization’s opportunity to evolve as a learning organization Peter Senge’s (2006) *The Fifth Discipline: The Art & Practice of the Learning Organization* is a significant contribution to this ARP. This reference is complimentary to the *Executive Fire Officer’s Desk Reference* with both offering insight about management strategies and in particular about the political arena involved in today’s management of organizations (Ray, 2006, pp. 121-122). Senge (2006) contributes by aligning the more progressive management practices from the private sector with the traditionally oriented fire service management topics to that could assist the fire service in being more adaptive and responsive to customer needs (pp. 275-280).

Senge’s (1991) *The Dance of Change* describes the process of developing a learning organization through a series of practical guides, exercises, and seemingly real-world applications (p. 33). It offers managers at any organizational level insight in influencing organizational performance. Through Senge’s (1991) five-step learning disciplines leaders and managers acquire a greater understanding of the change process that interplay throughout an organization’s growth processes (p. 10).

Jim Collins’ (2001) *Good to Great* provides insight into management strategies and practices that separate good organizations from great organizations. The concepts and practices offered in *Good to Great* were developed from actual studies of actual organizations and not from the theoretical perspective, so many experts offer (pp. 5-14). The overall contribution to this research effort was reaffirmed by the numerous references to Collins’ work in *Becoming a Strategic Leader* (Hughes & Beatty, 2005, pp. 254, 256). Conversely, Senge (2006) also draws
on Collins’ concepts of Level 5 Leadership characteristics necessary in developing a learning organization (p. 15). Cochran (2006a) provides a concise, yet insightful, two-page summary of Collins’ work in his chapter on management and leadership, with a solid correlation to Senge’s theory of Level 5 Leadership (pp. 20-21).

Why *Becoming a Strategic Leader – Your Role in Your Organization’s Enduring Success*, by Richard Hughes and Katherine Beatty (2006), is not required reading in the EFOP program can only be attributed to its recent publication. The book’s value became readily apparent when this researcher attended The Center for Creative Leadership (CCL), in Colorado Springs, CO. The CCL program, Developing Strategic Leaders, remains the single most beneficial executive development program this researcher has experienced in the past 30 years. The Executive Leadership program is well-designed program offering a strong foundation for executive leadership development. The Executive Leadership curriculum’s reference to CCL reaffirms the overall value of this reference source (National Fire Academy, 2005, pp. 3.3-3.7). *Becoming a Strategic Leader* offers insight into developing as a strategic leader through three comprehensive conceptual frameworks identified as being essential in the development of strategic leadership skills. The conceptual framework addresses strategic thinking, strategic acting, and strategic influencing as a compliment to organizational assessment via AARs (Hughes & Beatty, 2006, p. 104-107). Of all references utilized for this ARP, this reference offers the most quality of any single-source of information directed at developing strategic leadership, and its relevance to developing and implementing AAR programs.

learning and strategic change (p. 255). Organizational learning and strategic change are the principal intended benefits of after action reviews (Hughes & Beatty, 2006, pp. 112-113; Senge, 2006, pp. 291-292). A significant contribution to this ARP is the discussion of the U.S. Army’s systematic approach to conducting after action reviews (Garvin, 2000, pp. 106-116). Garvin’s text is complimentary to the CCL text, also offering a brief discussion of the U.S. Army’s system method of organizational learning using AARs (Hughes & Beatty, 2006, p. 104-105). Both references are very strong recommendation to anyone interested in organizational learning and the strategic change process from an organizational management perspective.

*Leadership on the Line: Staying Alive through the Dangers of Leading* (Heifetz and Linsky (2002) compliments the EFOP program objectives in providing a foundation recognizing and developing executive-level skills in developing and sustaining an adaptive learning organization. This requires “going to the balcony” and seeing the organization from different perspectives and learning about the needs of the organization by listening to others (pp. 53-55). Required reading in the EFOP program, this reference compliments the executive development approach embraced by the other organizational development theorists utilized for this ARP.

The *Chief Fire Officer’s Desk Reference* serves as a valuable reference in understanding the issues confronting this today’s fire service. Each author is a nationally renowned fire service authority. The text maintains a focus at the strategic level that serves as a solid resource for fire service leaders. Serving as a valued reference for practically any applied research project the most glaring weakness is created by its most valued contribution. While each chapter author maintains a broad strategic approach to the respective topic, there is a lack of specificity regarding may topics. This seemingly teasing approach can be frustrating for research efforts seeking a more comprehensives understanding of a particular topic.
Learning in the Thick of It offers a corporate perspective of organizational learning through the AAR process. Tapping the U.S. Army’s systematic approach, the authors address the learning opportunities from both an operational and administrative perspective (Darling, Parry, & Moore, 2005, p. 1). The premise of the article is that companies more often than not do not learn from what goes wrong, the principal reason being the corporate sector often views AAR as a noun, and not as a verb, an action process they should embrace (Darling et al., 2005, p. 2). With some measure of detail, the Army’s AAR process is explained as to how it relates to doctrine and tactics, which could be analogous to an organization’s mission or operating philosophy and its goals and strategies (Darling et al., 2005, p. 7). This reference contributes by explaining why organizations should develop a formal AAR program and the probably long-term benefits.

The DHS technical report, Special Report: The After Action Critique: Training Through Lessons Learned, offers a number of valuable key points in using after action reviews or critiques to improve organizational operations. The document addresses the various activities and incidents an AAR may be most applicable to and includes a bulleted list of incident command functions for consideration in developing an AAR (DHS, 2008, pp. 9-11). For this research, the document provides a short synopsis of procedures for conducting a formal AAR (DHS, 2008, pp. 12-14). There are two drawbacks with this document. First, there is minimal information directed to developing an organizational AAR program. The second drawback is the focus on fire incident command, possibly resulting in non-fire stakeholders interested in improving their respective AAR processes being discouraged.

The manual Developing Effective Standard Operating Procedures for Fire & EMS Departments offers direction when developing policies or procedures. Although published in
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1991 its value continues, providing a fundamental understanding of the differences between standard operating procedures [SOPs] and standard operating guidelines [SOGs] (USFA, 1999, pp. 1-3. The age of the document may well be its most significant negative attribute. While the document does discuss standards of care and standards of practice, it does not address the latest trend of using best practices (USFA, 1991, pp. 19-22). However, this is not a significant flaw as no specific reference to the application of best practices was found in the International Association of Fire Chiefs Executive Fire Officers Desk Reference, published in 2006. This reference offers guidance in how an effective SOG is developed.

Several emergency services journal articles spanning a wide range of AAR topics were found. Most were a summary of an AAR applicable to some past event. The majority of these types of articles utilized a very similar approach and format, focused predominately on the 5-Ws, who, what, when, where, and why. While the majority utilized a similar approach, there was no evidence of a recognized standard or best practice offering a uniform structured approach to conducting an AAR or developing a program.

Tom Brennan’s (1996) The Critique offers a succinct description of the critique process, discussing the basics of both formal and informal critiques. Describing the overall value of critiques, Brennan (1996) describes the best timing for a critique is immediately following the incident, before crews are released, and with the company officer playing a critical role in conducting critiques (p. 86). More suited for those interested in a quick critique at the scene this reference offers little in terms of developing an organizational program.

Brunacini (2002) contributes to this ARP offering his insights on the merits of quality critiques. Describing the various positive attributes critiques can make he adds a humorous touch in describing that from his experience “the most meaningful critiques that I’ve taken part
in were generally hosted by some grumpy old officer who physically walked us back through the incident scene and actually took the time to teach us something” (Brunacini, 2002, p. 29).

Brunacini (2002) proposes operational improvements would be realized if more emphasis were placed on reviewing strategic decisions, rather than the current emphasis being on tactics and tasks (p. 32). Brunacini’s (2002) focus on reviewing the three organizational levels, strategic, tactical, and task, offers correlation to Hughes and Beatty’s (2006) views in developing strategic leaders (p. 32; pp.13-16). Each of the respective views reinforces the effective leadership qualities from the Executive Leadership curriculum (National Fire Academy, 2005, pp. 3.4-3.6).

Deichman (1976) provides several key points for consideration in developing a post-fire analysis. The recommended approach incorporates not only a systematic flow in acquiring and representing information, but also offers a prescriptive methodology for evaluating overall incident management. This methodology incorporates a graded-scale analysis of the various operational activities, including alarm receipt and transmission, response, rescue, ventilation, extinguishment and associated fireground operations (Deichman, 1976, pp. 79-82). Deichman’s approach offers a more analytical than the approach utilized by other authors.

Dunn (1986) offers the opinion that the chief officer is the principal benefactor of a post-fire critique (p. 18). This is an interesting contrast to Brennan’s view of the fire company, led by the company officer, is the primary benefactor. Dunn (1986) offers that “The chief officer benefits the most from a post-fire analysis. He learns about firefighting strategy and develops the skills of fireground investigation and analysis” and further states, “A post-fire analysis is a strategic, tactic, and safety investigation from the point of view of the fireground commander” (Dunn, 1986, p. 18).
Morris (1987) in detailing a 10-step approach offers insight to developing critiques for an array of organizational activities. Morris (1987) was one of few to speak in terms of a program, requiring management support and administrative oversight as essential elements (p. 37). Reinforcing the perspective that a definitive exists for a formal critique program, Morris (1987) also recognizes the need to consider the unique features attributed to individual agencies and regions throughout the country (p. 39). Particularly insight is the need for a consistent approach, the selection of an effective critique officer, and the necessary follow-up by management in correcting identified weakness or deficiencies (pp. 36-37). This reference offers a concise approach in framing the fundamental considerations of an AAR program.

Smith (1994) provides a basic overview of informal and formal critiques (p. 16). Smith (1994) offers specific areas of performance for inclusion in a critique (p. 20). The attention to developing a self-critique focusing on individuals’ self-assessment serves as a good opportunity for self-improvement. In addressing performance, albeit through informal, formal, or self-critiques, Smith (1994) recommends placing mistakes or errors into two categories: commission and omission (p. 20). Smith (1994) addresses the overriding benefit of any critique is in the “lessons learned” section, written in a positive manner to reinforce positive learning as a benefit to anyone reading the AAR final report (p. 20).

The U.S. Army’s (1993) A Leader’s Guide to After Action Reviews provides the necessary information to understand the informal and formal AAR processes (pp. 4-6). Additionally, it offers a wide array of both administrative and operational benefits detailing the essential learning elements from the soldier (task) level, through the company and brigade (tactical) levels, and concluding at the command (strategic) level (Department of the Army [DofA], 1996, pp. 18-23). As would be expected with a military document, the information is
provided in a concise, no fluff, and direct approach. Getting past the military lingo is the most difficult aspect of this reference source; however, the structured approach from the task through the strategic level offers much insight.

A comprehensive search of the National Fire Protection Association (NFPA) standards was conducted to determine which, if any, addressed the application of AAR processes. The value of NFPA standards is typically respected in establishing recognized benchmarks specific to the fire service. Presently, no other standards development organization measures up. Many NFPA standards are accredited by the American National Standards Institute (ANSI), lending much validity to their contribution as the basis for many certifications and the accreditation process (Cochran, 2006a, p. 22). A member of NFPA, Frank Florence, serves as a commissioner for the Commission on Fire Accreditation International (CFAI) adding a measure of validity to NFPA standards being intertwined with any organizational assessment or evaluation process (Center for Public Excellence, n.d., Mission and Board of Directors).

**PROCEDURES**

Three primary research efforts were utilized for this ARP. The first effort involved a review of the references identified through the literature review. A second effort involved the use of an external questionnaire distributed via an email list. The external questionnaire is provided in Appendix B. The third effort involved an internal questionnaire administered to Westminster Fire Department personnel.

Research efforts focused on references pertaining to the development and implementation of AAR programs, policies, and procedures. Appreciating the geographic limitations to conducting fire service related research away from the Learning Resource Center this research effort, while on campus, was directed at fire and emergency services.
After departing the NFA, references were accessed via the Front Range Community College Library catalog system. The effort during this research phase focused on reference sources addressing AAR processes within industries and organizations not typically associated with fire and emergency services.

A four-pronged strategy was created for this ARP. Of particular interest in applying these strategies was identifying industry-specific recognized standards, best practices, standards of practice, and/or standards of care often associated with organizational performance review and evaluation (Senge, 1999, pp. 78, 80; United States Fire Administration, 1999, pp. 22, 25).

The first strategy involved researching emergency services related references that utilize the application of an AAR process. This strategy involved a review of fire and emergency service journal articles, fire service administration and management references consisting primarily of texts, manuals, and associated publications.

A second strategy looked outside the fire and emergency services. Specific attention was given to references associated with organizational management, developing learning organizations, and measuring organizational performance. A review of these sources revealed a trend embracing two paths with regard to AAR processes. The first was to identify the use of defined industry standards and the second was identifying a best practices approach. The best practices approach appears more popular from the non-fire service sectors (Darling et al. 2005, p 5; Garvin, 2000, p. 104). Subsequently, a dual tactic of identifying standards recognized by the fire service, as well as the use of any best practices was undertaken.

The third strategy directed research at other agencies, organizations, and industry sectors using AARs and determine the applicability to this specific research. Internet searches revealed a large quantity of high quality references associated with the wildland firefighting discipline and
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the military. Much of the research associated with other agencies and organizations was incorporated into the references associated with the second strategy, focused on non-fire service or emergency services sources.

The fourth strategy involved two components. One component involved compiling data from an internal questionnaire, via Survey Monkey, that sought to acquire input from fire and emergency services stakeholder. The second component compiled data from an internal questionnaire administered to Westminster Fire Department personnel.

The external questionnaire, consisting of 18 questions addressing the overall benefits, potential applications, and respondents’ experiences with AAR processes. The questionnaire was distributed though an e-mail list of approximately 700 EFOP participants and allied professionals. As some questions specifically sought feedback from non-fire service stakeholders, the list was reviewed to ensure it included non-fire service representation. The external questionnaire is found in Appendix B.

There were 226 responses to the questionnaire. Of these, 223 responded as representing a fire service organization, in either the public or private sector. Local, state, and federal levels were included among the fire service respondents. Other respondents included other government agencies or chose the “other, not listed” category in describing their organization. There were no identified respondents associated with solely with emergency medical service organizations, and none representing emergency management entities. While there were respondents associated with the private sector fire service, no responses were received from a “private sector agency/organization.”

An internal questionnaire was conducted utilizing Westminster Fire Department personnel. The questionnaire was administered during an in-service training session to 81
uniformed personnel. The questionnaire was also administered to eight uniformed administrative personnel. Six questions assessed an individual’s familiarity with an AAR process, ascertained the extent and quality of experience with an AAR process, and what their view might be pertaining to the benefit(s) to them, individually, and to the organization. The Westminster Fire Department questionnaire is provided in Appendix C.

As previously described, the use of recognized industry standards for assessment and evaluation of organizational benchmarks and performance is deemed essential in an AAR process. Organizations driven to seeking improvement through learning opportunities generally prefer to benchmark against some defined core competencies or an accepted and/or recognized industry standard (Collins, 2001, p. 100; Senge, 2006, pp. 277-280). Historically, the most recognized industry standards utilized by the fire service for benchmarking and performance measures have been the NFPA standards. Cochran (2006a) supports this in stating, “The NFPA recommends standards for almost every aspect of fire department operations (p. 21).

A comprehensive search of the NFPA standards to determine any requirement for an AAR process revealed that, of approximately 270 NFPA standards, only ten standards refer to AAR processes. It could be argued that other NFPA standards offer indirect references, however, the terms after action review, critique, hot wash, nor any related terminology could be found in any other NFPA standards. Generally, the ten standards that do refer to some form of an AAR process do so in a very limited approach. There is no definitive standard from NFPA detailing the minimum elements and parameters of an AAR.

Table 1 provides a list of NFPA standards and applicable the chapter or section(s) that reference some description of an AAR process.
Table 1 - National Fire Protection Association Codes, Standards and Recommended Practices with References to After Action Review Processes

<table>
<thead>
<tr>
<th>NFPA Code, Standard, or Recommended Practice</th>
<th>Chapter or Section</th>
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<tbody>
<tr>
<td>450 – Emergency Medical Services and Systems – 2009 ed.</td>
<td>Chapter 8</td>
</tr>
<tr>
<td>1026 – Incident Management Personnel Professional Qualifications – 2009 ed.</td>
<td>Section 4.4.8</td>
</tr>
<tr>
<td>1143 – Wildland Fire Management – 2009 ed.</td>
<td>Section 8.2</td>
</tr>
<tr>
<td>1403 – Live Fire Training Evolutions – 2007 ed.</td>
<td>Section 9.1.4</td>
</tr>
<tr>
<td>1500 – Fire Department Occupational Safety and Health Program – 2007 ed.</td>
<td>Section 8.11</td>
</tr>
<tr>
<td>1521 – Fire Department Safety Officer – 2008 ed.</td>
<td>Section 5.14 &amp; 6.7</td>
</tr>
<tr>
<td>1600 – Disaster/Emergency Management – 2007 ed.</td>
<td>Section 4.4.2</td>
</tr>
<tr>
<td>1620 – Pre-Incident Planning – 2003 ed.</td>
<td>Section 4.5</td>
</tr>
</tbody>
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RESULTS

Research Question #1: What is an After Action Review (AAR)? The external questionnaire created for this ARP proposed to respondents the following definitions:

*Informal after action review: Conducted at the company level with a review of how well specific tactics worked and what might be done better. Multiple companies may be involved. Conducted fairly informally on a case-by-case basis. May involve emergency and non-emergency events/incidents.*
Formal after action review: A detailed review and generally comprehensive analysis of large-scale, often complex, and tactically challenging operations. Typically conducted in an official and formal manner. Typically, results in developing a final report with specific details, action, results and lessons learned.

The intent was to provide a relatively broad depiction of the two terms, informal and formal, to ensure respondents could readily understand the difference between an informal AAR process, typically involving a first alarm structure fire response versus a more complex multi-company incident, often associated with a more formal AAR process. The research results did not reveal any definitions significantly different from that created for the external questionnaire.

Westminster Fire Department personnel, responding to the internal questionnaire, indicated that 100% of the respondents were familiar with the term critique, only 25% recognized after action review, and none was familiar with the term hot wash. When asked about the overall benefit of AARs, 100% responded that AARs are very beneficial and would generally like to see more utilization of AARs in evaluating emergency response performance.

From an emergency services perspective, an AAR is a fact-finding process offering the opportunity to collect and record facts about an event or incident and collectively painting a picture of what occurred and how personnel responded from both a command (tactical) and line (operational) standpoint (DHS, 2008, p. 1).

The U.S. Army’s description of an AAR involves a “professional discussion” of an event, focused on performance standards, offering soldiers the opportunity to discover for themselves what happened, why it happened, how to sustain strengths, and improve weaknesses. AARs are another tool available to leaders and unit commanders to maximum the benefits from every mission or task (DofA, 1993, p. 3).
From the strategic leadership perspective, Hughes & Beatty (2005) describes an AAR as a tool that focuses on performing better by capturing key insights quickly and then translating them back into action (p. 104). The process should be all about organizational learning and incorporating opportunities for both individual and team-oriented learning. Emphasis is on an action-oriented process with less emphasis on an analytical approach. A good AAR will permit strategic thinking, acting and influencing to occur. It encompasses both short-term and long-term strategic thinking (Hughes & Beatty, 2005, p. 112).

The DHS and Army references specify two primary types of AAR: informal and formal. Each observe the best application for the informal AAR is at the company level, albeit the fire company level or from the Army’s perspective at the small unit or platoon level (DofA, 1999, p. 5; DHS, 2008, p. 4). Platoons are a little larger from a staffing level than the traditional fire service company. Army platoons have a personnel strength ranging from 30 to 60 depending on the specific assignment (Sergeant First Class Vasquez, telephone conversation, February 9, 2009). Regardless of the size differential, an informal AAR process is easily adaptable to the fire company level, particularly suitable for the typical room and contents deployment.

The formal AAR is better suited for large-scale response operations presenting complex or tactically challenging operations, such as mass casualty incidents, major fires, large-scale hazardous material operations, incidents involving multiple injuries or deaths of civilians or firefighters, building collapse, and transportation disasters, to list a few examples (DHS, 2008, p. 5). The Army’s approach to formal AARs begins with the initial development of large training plan, which occurs six to eight weeks prior to execution. Formal AARs, within the U.S. Army, are typically conducted at the company level or above. A U.S. Army company’s strength can include up to 200 personnel depending on the assignment (Sergeant First Class Vasquez,
telephone conversation, February 9, 2009). The application of a formal AAR is easily adaptable to a typically battalion level response, comprising up to 6 or 8 fire companies, or for small and mid-sized fire departments operating under a single battalion concept, similar to the Westminster Fire Department.

Brennan (1996) and Deichman (1976) are not supportive of informal AARs. Brennan (1996) states that generally formal critiques are conducted too late for any measurable benefit and that the overall value is limited, particularly in large incident situations, for any operationally enhancements of the first-arriving units and that informal critiques are only of little more value while still missing the mark in overall benefit (p. 86). Deichman (1976) simply discounts the value of a simple critique in favor of methodology comprised of a more systematic approach relying on data, and less on the “prejudices, opinions, and just plain failure to know the circumstances affecting the operation . . . .” (p. 82).

Table 2 demonstrates 80% of external respondents are more likely to use informal AARs as compared to 61.2 respondents preferring formal AARs (61.2%). This could well be attributed to a positive trend nationally of fewer fires, both in number of fires and number of large-loss fires. Fires are one of the driving forces behind the use of formal AARs (DHS, 2008, p. 1). However, the decline in fires leads to less experienced personnel as many organizations continue to experience increased demand for services and especially for those with increasing staffing levels. This potentially leads to an experience gap between personnel that are more experienced and those hired most recently. All the more justification for developing standardized AAR programs (DHS, 2008, p. 2; Morris, 1989, p. 87).

Table 2 provides the results of the external questionnaire for the use of both informal and formal AARs and whether respondents have a formal or structured AAR program. The last
column offers the percentage of respondents with the actual number of respondents in parenthesis.

| Table 2 – Questionnaire Results: Respondents Using After Action Reviews Within Their Respective Organizations (225 respondents) |
|---------------------------------------------------------------|-----------|-----------|
| **Question**                                                   | **Yes**  | **No**    |
| Does your organization routinely conduct informal after action reviews (AARs)? | 88.0% (198) | 12.0% (27) |
| Does your organization routinely conduct formal after action reviews (AARs)? | 61.2% (138) | 38% (87) |
| Does your organization have a formal and/or structured after action review (AAR) program? | 43.6% (98) | 56.4% (127) |

Research Question #2: What are the positive and negative attributes of an after action review program? The most significant positive organizational contribution is creating a truly sustainable organization, focused on continual improvement through a value-based lessons learned process directly associated with the application of transformational leadership (Cochran, 2006, pp. 21-21, 459-460; Senge, 2006, pp. 289-290).

The most direct benefit in conducting AARs is the systematic approach to learning, from both an individual and organizational perspective. The focus of a quality AAR process is on performing better by sharing key insights quickly and translating them back into action (Hughes & Beatty, 2005, p. 104). The fundamental purpose of any AAR process is to provide an assessment or evaluation of performance. The process of measuring performance, comparing performance with recognized standards and practices, and subsequently following up with the
creation of needed policies/procedures and/or revising existing SOPs is indicative of the overall management function of controlling (Cochran, 2006a, p. 21; Garvin, 2000, p. 111).

The U.S. Army’s philosophy is to utilize AARs at every opportunity, particularly in training functions, to identify how to correct individual and unit deficiencies, sustain strengths, and keep everyone focused on performance of specific tasks necessary for any training program objectives (DofA, 1993, p. 2). Within the Army’s performance assessment process, the AAR is the keystone of the evaluation process and is a mandated part of the training process. A key attribute of the AAR process is the on-the-spot opportunity for coaching soldiers and unit leaders (DofA, 1993, p. 5). In taking advantage of this coaching opportunity, it is essential that participants offer and accept open and honest feedback. Feedback must incorporate a frank discussion of the incident facts and it must have, as with the Army, strong management support (DofA, 1993, pp. 2, 24; Morris, 1987, p. 37).

Table 3 reveals significant room for improvement in the fire service’s utilization of AARs, either informally or formally, as an opportunity for feedback and coaching personnel. As noted in Table 3, there is also room for improvement in the overall effectiveness of AARs, with nearly 40% of respondents assessing AARs as minimally beneficial to their organizations.

The externally questionnaire asked for input pertaining to the use of a standard, template, or recommended practices in developing AARs. 49.3% of all respondents reported no formal standard or recommended practice is utilized in developing AARs, and 39.8% reported using an internal standard or template. 9.8% of respondents reported use of an external standard or template or utilized a combination of an internal and external standard/template.

Research reveals two prevalent negative attributes associated with AAR processes. The first is the perception of how participants are treated; secondly, the lack of follow-up on
identified issues by organizational leaders in instituting corrective action. If AARs or critiques are a basis to chastise personnel or if used as whipping posts to embarrass officer’s actions and decisions there will be little perceived benefit from an AAR process. If the outcome is negative discipline then any request for input and active participation is likely to be non-existent. If there is a perception that the purpose of an AAR is to glorify or cover-up the performance of incident commanders, the potential effectiveness of an AAR process will be greatly diminished (Smith, 1994, p. 16; Garvin, 2000, p. 113).

Table 3 provides questionnaire results assessing respondent’s views on the overall effectiveness of their respective AARs. The last column offers the percentage of respondents with the actual number of respondents in parenthesis. Less than 50% of respondents in Table 3 give their AARs a grade of B, however, nearly 58% believe their AARs are more than satisfactory in meeting their organizational needs. Nearly one-third view their AARs as meeting their needs but recognize that improvements would be realized with improvements to the AAR process. Clearly, there is a need for higher quality in AARs, which would be achieved through a standardized format. The last column offers the percentage of respondents with the actual number of respondents in parenthesis.

<table>
<thead>
<tr>
<th>Table 3 – Questionnaire Results: How Effective Are After Action Reviews (AARs) Conducted By Your Organization? (225 Respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very effective (Grade A). AARs are a positive learning experience with a definite value to the organization. Minimal improvements required; our AARs work well.</td>
</tr>
<tr>
<td>Effective (Grade B). After action reviews are moderate benefit from a learning perspective and to the organization. A few quality variance from AAR to AAR; overall our AARs are received in positive manner.</td>
</tr>
</tbody>
</table>
Somewhat or moderately effective (Grade C). After action reviews are of some benefit from a learning perspective and to the organization. AAR process could be updated, but to the extent utilized our AAR process meets our needs. 30.7% (69)

Minimally effective (Grade D). We go through the motions and not much else. 8.4% (19)

We do not conduct after action reviews. 3.6% (8)

Smith (1994) in direct support for the use of the term critique in lieu of other descriptive terms, observes that should officers attempt to slip away unscathed from bad decisions, or should others fear retribution, that any meaningful benefit of a critique is immediately eroded (Smith, 1994, p. 16). Quality feedback should be meaningful and offer opportunity for self-improvement (DofA, 1993, p. 24). Critical analysis starts with being truthful (Smith, 1994, p. 18).

Failure to understand the need for candor and openness generally leads to fear and anxiety, subsequently lowering the learning potential associated with AAR processes. Senge (1999) offers that as individual and organizational learning capabilities improve the need for candor and openness increase. The lack of a positive AAR process creates “openness gap,” while ultimately limits any transformational learning opportunities derived from performance assessment and evaluation (pp. 244-245). Hughes & Beatty (2005) are more succinct in their perception of AAR failures due to a lack of candor and openness, in stating, “It is not about fixing blame on individuals or teams. It won’t work in an environment of fear” (p. 104).

Less prevalent, yet considered by many to be negative issues with AAR processes is the timing of the actual AAR and the timeframe utilized for the AAR. Informal AARs, or critiques,
After Action Review Programs

should be conducted as soon after an incident as possible and would obviously warrant less time expended than would be used for a formal process. Smith (1994) recommends conducting informal critiques at the incident scene or at the station immediately following an incident to realize the most benefit (p. 16). Deichman (1976) offering a different perspective, observes that simple or informal critiques offer little in the way of specific data useful in comparing one firefighting operation to another. Deichman (1976) holds the view that simple critiques do not provide an effective measure of the effectiveness at a given fire; what is needed is a more systematic method of analysis, a process designed for the actual comparison of one fire to another (p. 79).

DHS (2008) does not recommend a timeframe for informal AARs. A two to three hour timeframe is recommended when developing a formal AAR (p. 6). The Army recommends 30-45 minutes for platoon-level AARs, 1 hour for company-level AARs, and 2 hours for battalion level AARs. Smith (1994) recommends that a critique facilitator be selected to ensure the continuity of process flow, but that time limits not be imposed on meaningful discussions (p. 16). Morris (1987) recommending the use of a consistent approach recommends a critique officer manage the process by sticking to a standardized format that restricts drifting into unproductive areas (p. 38).

Research question #3: What are the applications of an after action review program for the Westminster Fire Department aside from the traditional critiques? Results from the external questionnaire reveal most fire departments do utilize AARs primarily for emergency scenarios.

Responding to the Westminster Fire Department questionnaire, 90% indicate a preference for increased utilization of AARs, either informal or formal, for all multiple-trauma incidents, working structure fires, and hazardous material incidents where technician-level deployment
occurs. Overwhelmingly, 70% prefer an informal AAR at the company or shift level. Many respondents commented that to wait for a formal AAR to be developed would result in a loss of interest and little learning would take place after the necessary delay.

The journal authors utilized for this research focus wholly on emergency response scenarios. The non-fire service references obviously focused on assessing or evaluating business strategies performance, i.e. Good to Great, et al., or on overall organizational performance, i.e. Becoming a Strategic Leader, Learning in Action, and The Fifth Discipline, et al. Little mention of actual AAR processes was found in The Chief Fire Officer’s Desk Reference.

The U.S. Army training circular TC-25-20, A Leader’s Guide to After Action Reviews, specifically focused on use of AARs in preparing for and in evaluating outcomes associated with training activities (DofA, 1993, p. 2).

The DHS (2008) AAR publication focuses primarily on emergency response, with no identified application to non-emergent activities. The introduction identifies training classes and seminars as learning venues, but the application of a lessons learned approach is achieved from the lessons learned from each response to an emergency incident (p. 1).

From a business continuity perspective, the most relevant non-fire service reference that could be found is a very generic provision in NFPA 1600, Disaster/Emergency Management and Business Continuity Programs [NFPA 1600], 2007 edition. NFPA 1600, in Section 4.4.2 states, “The entity shall conduct a periodic evaluation of the program based on the objectives” (p. 5). The scope of this particular standard is assisting businesses and fire departments in creating a partnership for the development of business continuity programs intended to mitigate and control losses due to disasters or other emergencies (NFPA 1600, 2007, p. 4).
All Westminster Fire Department questionnaire respondents commented that AARs were
very appropriate for emergent events/incidents. Only 60% viewed non-emergent activities or
events are appropriate for an AAR process. Respondents comprising the 40% minority viewed
non-emergent AARs as likely leading to unnecessary meetings and a poor application of
resources and time. Additionally, the amount of time required for developing and attending non-
emergent AARs would convolute an already overloaded departmental activities calendar.

Table 4 provides a listing of activities or events for which an AAR might be applicable.

<table>
<thead>
<tr>
<th>Westminster FD Activities or Events</th>
<th>City of Westminster Activities or Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Combat challenge events</td>
<td>• Westminster Faire</td>
</tr>
<tr>
<td>• Annual physical fitness testing</td>
<td>• Fourth of July fireworks show</td>
</tr>
<tr>
<td>• Fire Chief’s Ale at Rock Bottom</td>
<td>• Business retention faire</td>
</tr>
<tr>
<td>• 9Health Fair</td>
<td>• Emergency operations center activations for snowstorms, etc.</td>
</tr>
<tr>
<td>• FD annual picnic</td>
<td>• City volunteers’ appreciation picnic</td>
</tr>
<tr>
<td>• Public education programs</td>
<td>• City’s management team meeting held quarterly</td>
</tr>
<tr>
<td>• Pre-incident planning process</td>
<td>• CIP project management, especially those with multiple departments</td>
</tr>
<tr>
<td>• Fire code inspection process</td>
<td>• Water break repair incidents</td>
</tr>
<tr>
<td>• Strategic planning sessions</td>
<td></td>
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<tr>
<td>• Budget preparation sessions</td>
<td></td>
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<tr>
<td>• 9-11 Awards banquet</td>
<td></td>
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<tr>
<td>• Citizen’s academy</td>
<td></td>
</tr>
<tr>
<td>• Ride-along programs</td>
<td></td>
</tr>
</tbody>
</table>
Research question #4: What are the essential data or information elements and components of an after action review? The NFPA standards, identified in Table 1, did not identify specific data or information requirements for AARs, nor did any standards offer direction regarding AAR components. The most comprehensive criteria are found in NFPA 450, *Guide for Emergency Medical Services and Systems* [NFPA 450], 2009 edition. NFPA 450 devotes Chapter 8 to developing a system for assessing performance. The scope of Chapter 8 addresses evaluating system performance, prioritizing development, establishing and maintaining system controls, monitoring performance indicators, and evaluating system impact. The elements identified in Chapter 8 could serve as the basis for an AAR process specific to delivery of emergency medical services (NFPA 450, 2009, p. 19).

Brunacini’s (2002) contribution focused on the format of an AAR. He recommends conducting an AAR in the same approach as one would perform on an incident. First, address the strategies, the second approach is evaluating the tactical considerations, and third, assess the task level responsibilities (p. 30). Brunacini (2002) acknowledges that much of the focus in the Phoenix Fire Department has been on the tactical and task levels, with minimal focus on strategic considerations. The premise of the article is justification for including strategic considerations in the AAR (p. 31).

Table 5 lists essential subcomponents that are associated with a review of the strategy, tactics and tasks (Brunacini, 2002, p. 30, DHS, 2008, pp. 7-10).
### Table 5 – After Action Review Data and Information Elements, and Components

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Tactics</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assuming, confirming,</td>
<td>1. Rescue</td>
<td>Any work performed at the company level in support of tactical priorities.</td>
</tr>
<tr>
<td>and positioning command</td>
<td>2. Fire control</td>
<td></td>
</tr>
<tr>
<td>2. Evaluating the situation</td>
<td>3. Property conservation</td>
<td></td>
</tr>
<tr>
<td>3. Communicating</td>
<td>4. Initial customer</td>
<td></td>
</tr>
<tr>
<td>4. Deploying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Planning for incident</td>
<td></td>
<td></td>
</tr>
<tr>
<td>action and strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Organizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Evaluating, reviewing,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and revising the incident</td>
<td></td>
<td></td>
</tr>
<tr>
<td>action plan (IAP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Continuing, transferring,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and terminating command</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dunn’s (1986) article focuses on developing formal AARs for large-scale incidents. Dunn (1986) offered a fact sheet that in essence duplicates information normally found in an NFIRS report. Dunn (1986) focuses primarily on the strategy or plan of action and the tactics (p. 21). A fire analysis diagram detailing the structure floor plan, fire point of origin, unique construction and layout features, and the avenues of fire and smoke spread is a key component of the AAR process (Dunn, 1986, p. 154). Dunn (1986) supports the use of photo documentation, referring to photographic documentation as, “... the most important part of a post-fire analysis,
is an extremely valuable visual aid which can used again and again to train new fireground commanders” (p. 153).

Darling, et al. (2005), applying the U.S. Army AAR model, supports the concept that initial development of the AAR be initiated for each separate activities or phase when “operational orders” are issued. Darling’s et al. (2005) correlates the Army’s model to a business application following the Army’s preferred four-part process. The first part is identifying the task to be employed or actions a subordinate team would take; the purpose of the task, or why the task is important; the commander’s intent, or tactical consideration; and finally, the end state, or strategic goal (p. 3). The specific order of the four-part process is somewhat concerning, in that it flows in the opposite direction of how most fire officers develop incident size-up. Brunacini (2002) supports this stating, “Incident operations must begin with strategic level decision-making” (p. 30). The concept of transformational leadership also requires an upfront and clear determination of an organization’s mission or strategic approach to meeting service needs (Cochran, 2006a, p. 20).

The U.S. Army proposes a bulleted key point format for AARs that fall within the four-step AAR planning and execution sequence (DofA, 1993, p. 4). It should be remembered that the primary focus of the Army’s AAR training circular, TC 25-20, focuses on training activities. The Army’s key points are easily aligned with fire services operations by simply substituting operational terminology where applicable. Table 6 demonstrates examples of how the Army and fire service operational terminology can be aligned.
Table 6 – U.S. Army After Action Review Format Key Points

<table>
<thead>
<tr>
<th>Format Key Points</th>
<th>Correlated Fire Department After Action Review Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction and rules</td>
<td>1. Introduction and ground rules</td>
</tr>
<tr>
<td>2. Review of training objectives</td>
<td>2. Review of incident objectives or tactical considerations</td>
</tr>
<tr>
<td>3. Commander’s mission and intent (what was supposed to happen)</td>
<td>3. Incident action plan (IAP)</td>
</tr>
<tr>
<td>4. Opposing force (OPFOR) commander’s mission and intent (when appropriate)</td>
<td>4. Size-up (what was happening and projected development)</td>
</tr>
<tr>
<td>5. Relevant doctrine and tactics, techniques, and procedures (TTP)</td>
<td>5. Associated tactics and incident considerations</td>
</tr>
<tr>
<td>6. Summary of recent events (what happened)</td>
<td>6. Incident timelines and operational benchmarks</td>
</tr>
<tr>
<td>7. Discussion of key issues (why it happened and how to improve)</td>
<td>7. Discussion of key issues (why it happened and how to improve)</td>
</tr>
<tr>
<td>8. Discussion of optional issues</td>
<td>8. Alternative options for consideration’</td>
</tr>
<tr>
<td>9. Discussion of force protection issues (discussed throughout)</td>
<td>9. Health and safety issues (discussed throughout)</td>
</tr>
<tr>
<td>10. Closing comments (summary)</td>
<td>10. Closing comments (summary)</td>
</tr>
</tbody>
</table>

Research question #5: What are the organizational controls necessary to ensure the after action review program is properly utilized? The most obvious control measure is support throughout the organization and particularly formal support from administrative and executive officers charged with the responsibility for strategic leadership (Coleman, 2006, pp. 449-450).
Morris (1987) views the first step, and the most essential aspect, for overall program success is expressed management support. He states, “Management’s demand for a written incident critique policy and procedure is the first step towards an effective critique process” (Morris, 1987, p. 37).

For sustained long-term organizational improvements, persons with “positional authority” must exert energy and focus to achieve long-term results (Senge, 2006, p. 337). Addressing the strategy of an organization’s learning process developing effective strategic leaders and strategic leadership teams requires leaders to recognize the significance of training, coaching, mentoring, feedback, and team building (Hughes & Beatty, 2006, p. 209). All of these can be affected and contribute to individual and organizational development through an effectively structured AAR program (Garvin, 2000, p. 89). Collins (2001) also recognizes similar benefits to individuals and organizations through a continual and on-going organizational assessment process, described as creating “a culture of discipline” (p. 142-43.) A culture of discipline offers a consistent system from which performance is measured and gives people the appropriate freedom and responsibilities to successfully operate within the system’s parameters (Collins, 2001, p. 125).

The Army’s process requires appointment of an “Observer and Controller” or “OC” for every training activity. The OC refers to the individual assigned to observe training and provide control or oversight for training exercises. An additional responsibility is leading the AAR (DofA, 1993, p. 9) The OC responsibilities are very much aligned with those of a Health and Safety Officer, as described in NFPA 1521, Standard for Fire Department Safety Officer, 2008 edition. Section 5.1.1.1 requires a health and safety officer’s involvement in communicating the risk management plan in training and education activities to all members (NFPA 1521, 2008, p.
NFPA 1521 categorizes safety officers into two functions: Health and Safety Officer, per Chapter 4, or Incident Safety Officer, per Chapter 5 (NFPA 1521, 2008, pp. 9, 10). The risk management plan and its required elements are addressed in NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, Section 4.2 (NFPA 1500, 2007, p. 11).

The Health and Safety Officer (HSO) is assigned post-incident analysis through NFPA 1521, Section 5.14, and is assigned responsibility for the development, implementation, and management of the official written risk management plan (NFPA 1521, 2008, p. 8). This position essentially functions as the overall organizational health and safety official.

The Incident Safety Officer (ISO) is integrated into the incident management system as a command staff member (NFPA 1521, 2008, p. 10). Post-incident analysis responsibilities are prescribed through Section 6.7 (NFPA 1521, 2008, p. 11). An ISO incident checklist is provided by NFPA 1521 detailing many of the operational considerations that align with the Army’s Observer and Control Officer’s responsibilities (DofA, 1993, pp. 8-10; NFPA 1521, 2008, pp. 19-20). The incident checklist could well serve as a checklist for the AAR process.

The DHS publication, *Special Report: After Action Critique: Training Through Lessons Learned* (2008), provides a list of recommended information considerations for a major incident critique. Table 7 describes the recommended information needs formulated around the functions and associated sub-functions often attributed to fireground incident management.

<table>
<thead>
<tr>
<th>Fireground Function</th>
<th>Sub-Function or Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Suppression</td>
<td>• Incident command</td>
</tr>
<tr>
<td></td>
<td>• Fire suppression units</td>
</tr>
</tbody>
</table>

(*) Source: DHS, 2008, pp. 9-11)
### Support Services
- Dispatch/Fireground Communications
- Public Information Officer (PIO)
- Logistics/Fleet Maintenance

### Fire Prevention
- Code enforcement
- Fire investigations

### Special Services
- Emergency medical services
- Hazardous materials incident

While directed at fireground operations each of the functions could be addressed separately for a non-fire AAR. Any of the sub-functions could also be addressed through another AAR scenario. Emergency medical services could be a stand-alone AAR for multiple casualty incidents (MCI), the logistics/fleet maintenance could be an AAR element for a Westminster Faire AAR.

The national questionnaire asked respondents to identify what agency or organizational standard is utilized for their AAR processes. There were 97 responses, with 129 skipping the question, from 226 questionnaire respondents. 40%, 39 respondents, reporting no standard is utilized, or at least they did not know of one. 37.2% or 36 respondents, use some form of internal operating procedures for their AAR processes. Table 8 offers a summary of results in the use of standards from other agencies or organizations in developing AARs. The last column offers the percentage of respondents with the actual number of respondents in parenthesis.
Table 8 – What Other Agency or Organization Standards Are Utilized in Developing After Action Reviews

(Source: National Questionnaire with 97 responses from 225 respondents)

<table>
<thead>
<tr>
<th>Standards Utilized</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>No standards utilized or respondent did not know of one</td>
<td>40.02%</td>
<td>(39)</td>
</tr>
<tr>
<td>Internal SOG/SOP or other operating guideline</td>
<td>36.08%</td>
<td>(35)</td>
</tr>
<tr>
<td>National Wildfire Coordinating Group format or template</td>
<td>5.15%</td>
<td>(5)</td>
</tr>
<tr>
<td>State or Federal agency format or template</td>
<td>4.12%</td>
<td>(4)</td>
</tr>
<tr>
<td>Military format or template</td>
<td>3.9%</td>
<td>(3)</td>
</tr>
<tr>
<td>Other sources (CFAI, mutual and/or regional aid agreements)</td>
<td>11.34%</td>
<td>(11)</td>
</tr>
</tbody>
</table>

No other standards or recommended practices were suggested by respondents that had not been previously revealed through this research. Approximately 76% of national respondents reported that no recognized standard is being utilized for the development of an AAR. This result would seem to indicate the need for a standardized format, particularly for the fire service. A standardized AAR format, designed with sufficient flexibility, would be easily adaptable in providing an effective structured approach in addressing the assessment and evaluation of the various operational activities and incidents experienced by the fire services and its allied emergency services organizations.

**DISCUSSION**

One thing is clear from this research effort, there is no clear-cut definition for an after action review, a briefing or debriefing, a critique, a hot wash, a post-fire analysis, nor a post-incident analysis. There is no identifiable fire service standard, standardized template, nor any recognized practice offering direction in conducting AARs. No doubt contributing to the lack of
a standardized or uniform definition is the number of different terms used to describe the AAR process. The results of the national questionnaire demonstrate that, of 226 respondents, approximately 88.0% utilize informal AARs and 66.2% utilize formal AARs. No respondents utilize any recognized standard other than those created in-house.

One of the more surprising results of this research is the lack of consistency in defining the after action review process. Additionally, the wide variance of terminology used to describe AAR process, while frustrating at times, provided interesting insight into the views of many fire service authorities or experts. Fire service references utilized a wide array of descriptions and terms in describing the AAR process.

Brennan (1996) does not offer a definition, instead using the term critique as a description of the formal and informal critique process (p. 86). Deichman (1976) also does not offer a definition. However, the contribution to this research will be apparent in discussing the attributes of a post-fire analysis (pp. 79-82). Brunacini (2002) defines a critique from an on-line dictionary, stating a critique is “A critical estimate or discussion” (p. 29). Dunn (1986) focuses specifically on the use of AARs for fireground operations. Using the phrase “post-fire analysis” describes a strategic, tactic and safety investigation from the fireground commander’s point of view (p. 18). Morris (1987) does not offer a definition. Rather a systematic programmed approach describes the development of an effective critique program (pp. 37-39). Smith (1994) describes the AAR process as a critique, with the purpose to reconstruct events and assess how the fire department performed, understand what worked well, what improvements might be needed, and if any SOPs warrant revision or modification (p. 16).

The other references particularly those from outside the fire service typically utilize the term after action review to describe the assessment or evaluative process.
There were only two identifiable sources offering direction through a standardized approach to conducting AARs. To use either AAR approach for normal fire service operations will warrant some degree of adaptability in creating a usable template and format.

The first source is NFPA 1143, *Standard for Wildland Fire Management* [NFPA 1143], 2009 edition. Section 8.2 offers a little more direction in developing AARs than most other NFPA standards (NFPA 1143, 2009, pp. 10-11). Most NFPA standards simply stipulate that an AAR is required, or assigns the responsibility to a specific position. The language is typically generic without offer any specific detail on the actual elements or components.

The second source is the U.S. Army’s AAR process, recognized as having one of the more effective AAR systems (Garvin, 2000, pp. 83-90, 106-116; Hughes & Beatty, 2005, p. 104; Senge, 1999, pp. 470-477). As previously noted, some degree of adaptability would be required to align it with fire service needs.

Much latitude most be offered to give individual organizations the latitude to develop an AAR program that aligns with strategic missions and visions. As organizations grow and develop the AAR process will need to be periodically revised to realign with current organizational needs. Adaptability in learning and in meeting organizational needs is a key responsibility of an executive leader (Ray, 2006, p. 118; Cochran, 2006b, p. 462; Hughes & Beatty, 2005, pp. 122-122). However, simply understanding that it is an assessment or evaluation of some activity or event to determine the good, the bad, and the ugly may well suffice for many organizational needs. The extent and quality of the follow-up effort of any identified needs becomes the determination of overall success.

Disagreement amongst nationally recognized fire service authors also appears to be a contributing factor to why there is not a consistent standard or format. Brennan (1996) and Dunn
(1986), both from the New York Fire Department, have differing views on the overall value of AAR processes. Brennan (1996) prefers to conduct informal critiques, with the company officer in charge of the critique, at the incident scene, while actions and memories are fresh. He comes close to completely discounting the value of formal critiques (1996, p. 86).

Dunn (1986) prefers a more formal post-fire analysis conducted by a chief officer. Additionally, Dunn (1986) offers the opinion that utilizing a more structured approach discounts the value of an AAR for individual fire companies and that AARS should be conducted for primarily for major fires or for ordinary fires where a significant event has occurred (1986, p. 18). No doubt these differences, as with any varying perspectives, is better understood through the concept of “getting on the balcony” and shifting back and forth between the local and global views to understand different perspectives and the need for embracing an adaptive change philosophy in guiding an organization (Heifetz & Linsky, 2002, p. 53).

The term critique raises the level of concern for many individuals. Using the term critique often carries a negative connotation for some personnel in the fire service (Brunacini, 2002, p. 29; Morris, 1987, p. 38; DHS, 2008, p. 1). The actual critique, or AAR, of an incident may be perceived as a way to assign blame for mistakes. Any critique might be received more positively with the use of a less threatening term such as debriefing, after-action review, or post-incident analysis. Regardless of the term used, the AAR process should be viewed as a constructive way to obtain helpful feedback and positive suggestions. The process should be communicated as an important tool for improving firefighter safety and health, as well as a means for ensuring that the public is receiving quality services. The AAR process should create an organizational climate of adaptive change in improving individual and organizational performance (DHS, 2008, p. 2; Garvin, 2000, pp.38-39).
The Army’s approach to conducting AARs offers the fire service a structured approach that with the fire service’s para-military orientation appears easily adaptable. The U.S. Army’s focus in Training Circular 25-20, *A Leader’s Guide to After Action Reviews* is directed to training activities. The Army’s focus on AARs for training offers the fire service some great insight as it relates to the occurrence of firefighter injuries and fatalities during training activities. It seems obvious that if a unit or team cannot train safely there could be significant issues when they are actually called into action (DofA, 1993, p. 22).

Having a well-defined approach to assessing organizational performance or benchmarking against an organization’s strategic drivers is essential to effectively managing through strategic thinking embraced by fundamentals of strategic management (Coleman, 2006, pp. 448-450). Collins (2001) describes this approach as understanding organizational performance through a process that examines the “brutal facts of reality.” Collins (2001) purports that through this process of assessing organizational performance “you absolutely cannot make a series of good decisions without first confronting the brutal facts” (pp. 69-70). Through this critical analysis process, organizations must have the discipline and strategic leadership capable of moving performance to the next level, or, as described by Jim Collins (2001), through the utilization of Level 5 leadership principles (pp. 63).

Operating from an organizational work plan, incorporating specific goals and objectives for services offered to the community, the fire department goals directly support the City of Westminster’s adopted strategic plan (Westminster Fire Department, 2006, p 31). Without benefit of a structured performance assessment process, changes in existing benchmarks or practices may be compromised. Potentially this could result in less than acceptable performance and in some instances little to no improvement in unsafe practices contributing to personnel
injuries. Addressing these missed opportunities through a well-developed AAR program will move the Westminster Fire Department forward in developing an organizational culture that is responsive, and adaptable, to internal and external customer expectations. Creating an organizational culture that readily embraces adaptive change, to internal and external influences, and strives for continual improvement through transformational leadership is the foundation of a learning organization (Cochran, 2006a, p. 13; Senge, 1999, pp. 14-15).

Fulfilling the mantra of being a progressive learning organization necessitates a focus on systems thinking with strong emphasis on assessing performance in the form of feedback to stakeholders (Senge, 2006, p. 73). Systems thinking will often be realized from application of a transformational style of leadership with the principal benefit being a greater understanding of assessing where we are, learning how we get there, and checking our progress (Hughes & Beatty, 2005, p. 74. This approach is more likely to result in strategic thinking, strategic acting, and strategic influencing considered by many as essential in developing as a learning organization (Cochran, 2006b, pp. 457-460; Garvin, 2000, p. 192; Hughes & Beatty, 2005, p. 41).

Recently the Westminster Fire Department implemented a SOG for pre-incident planning. One of the concerns from the project leader, Fire Lieutenant Bruce Black, was a need to measure the success of individual pre-incident plans and of the benefit to the organization (B. Black, personal conversation, November 11, 2008). Measuring performance against current organizational standards and nationally recognized standards, such as the NFPA standards, create opportunities for individual and organizational learning. Measuring performance through an AAR program will strengthen efforts to lead and manage the organization through the strategic change process (Coleman, 2006, pp. 449-451; Senge, 1991, pp. 5-10). Understanding the benefit of benchmarking against identified standards, specifically those considered as accepted industry
standards, is an evaluative process of the overall influence of an organization and its explicit leadership positions (Hughes & Beatty, 2005, p. 128).

For the past six years, the City of Westminster has been involved in the International City/County Management Association’s performance measurement program. Along with more than 150 jurisdictions across the country, the City of Westminster utilizes comparative data to measure various performance benchmarks (City of Westminster, n.d., p. 36). The Westminster Fire Department is a principal stakeholder in this effort. Through the City of Westminster’s performance benchmark program the Westminster Fire Department utilizes 19 specific performance measures that align with the City’s strategic plan objectives. Each major division or section within the Fire Department establishes performance measures that contribute to a better understanding of how activities and programs perform (Westminster Fire Department, 2008, pp. 1-3).

Embracing the application of performance benchmarking in assessing community risks, and seeking opportunities to measure organizational performance can be successfully accomplished through effectively designed AAR programs (Cochran, 2006a, p. 13; Coleman, 2006, pp. 446-451; Senge, 2006, p. 279).

**RECOMMENDATIONS**

With increasing attention directed to the concept of best practices and the increasing number of fire departments seeking accreditation through the Center for Public Safety more attention is being afforded to organizational benchmarking and performance evaluation (Cochran, 2006a, p. 22). A valuable tool for this endeavor is a structured AAR program. An effective AAR program can easily be adapted to both emergent and non-emergent organizational activities, events, and incidents.
Recently it was announced that the National Standards Institute of Technology will be conducting studies to determine how long it takes, and how effective, fire crews are using a variety of staffing levels to extinguish a structure fire (Statter, 2009, ¶ 6). This will enhance the need for effective AAR processes.

This research brings to light three essential needs, not only for the Westminster Fire Department, but also for the fire service as a whole. There is the definitive need for a structured and systematically formatted AAR process. The AAR process must evolve to a level of effectiveness and quality that enables it to becomes ingrained in the culture of an organization embracing adaptive change. This is more easily accomplished through the influence of effective executive leadership (NFA, 2005, p. 8.3). A concerted focus must ensure the AAR process is effectively designed and easily adaptable, thus enhancing the value to organizations.

From this applied research projects two definitive outcomes have evolved. The first outcome is the development and implementation of a Westminster Fire Department standard operating guideline (SOG) providing a structured and systematic approach to developing and conducting AARs, for both emergent and non-emergent events. Having an AAR SOG will allow the Westminster Fire Department to review and assess the effectiveness of existing operational SOGs. From the most recently completed pre-incident planning SOG, and through the application of current operational SOGs, Westminster Fire Department staff will have the opportunity to assess performance at incidents involving a few crews to multiple-companies deployed at large-scale incidents. The AAR assessment includes a review of the strategic goals, tactical objectives, and crew-based task assignments. The decision-making of incident management officers will be assessed to ensure strategies align with tactics and that assigned
tasks are appropriate for tactical objectives. The Westminster Fire Department After Action Review Program Standard Operating Guide is included as Appendix A.

Non-emergent events will also be reviewed on a periodic basis. Certainly, as in the past, major City of Westminster events such as community fairs and the July 4th fireworks show will be reviewed. Now included in these reviews are fire station open houses, and community safety events. A formalized AAR program enables Westminster Fire Department managers to assess performance and determine program effectiveness in meeting its goals and objectives. These programs include the business fire code inspection program, the new construction plan review and inspection program, the car seat inspection program, special team training programs, and a variety of public education activities. Training will use the AAR to assess recruit academy training sessions and the affiliated graduation program, quarterly engineer and paramedic training sessions, and the monthly EMS and fire in-service training sessions. Additionally, administrative staff will be able to apply a structured review of the quarterly supervisory team meetings and the annual budget and strategic planning retreats.

The AAR SOG will encourage the use of informal AARs where appropriate and provide specific direction on the need for designing and conducting a formal AAR. Administratively, a member of the administrative staff will be assigned to manage administrative AARs. For AARs associated with EMS incidents and activities, the EMS staff will be responsible for developing and conducting applicable AARs. For all fire and non-EMS incidents AARs, the training division staff will be assigned the responsibility.

A second outcome of this applied research project will be to contact NFPA and inquire about the feasibility of developing a standard format for AARs, similar in format and content to NFPA 1620, *Recommended Practice for Pre-Incident Planning*, 2003 edition. Contact with
NFPA has been initiated through NFPA Regional Manager David Nuss. Nuss provided the contact information for Curt Varone, Director of Fire Protection for NFPA. Mr. Varone is the primary contact to initiate the discussion of new standards development (Dave Nuss, personal conversation, February 11, 2009).

A standard or recommended practice applicable to program assessment and evaluation, prescribing program elements and offering a systematic approach to developing and conducting AARs, will compliment the benefits associated with utilizing the other NFPA standards.
REFERENCES LIST


APPENDIX A

Westminster Fire-Rescue Administrative Guideline

SOG – 105.01 – After Action Review Program

Purpose

Provide guidance in conducting after action reviews of emergency incidents, non-emergent programs and Fire Department or City events. This SOG provides guidance in developing a program for evaluating the effectiveness of operations. The following describes the broad goals of the After Action Review SOG:

- Assess and evaluate the quality of customer service delivery in accordance with SPIRIT and PRIDE.
- Determine the capability to successfully complete incident objectives or program goals.
- Assess and as warranted improve safety.
- Identify training issues, assess apparatus operations, assess equipment and tool needs, and other resource needs.
- Evaluate compliance with current Standard Operating Guidelines and applicable standards.
- As necessary create new or modify existing Standard Operating Guidelines.
- An after action review shall not be utilized as the basis for disciplinary action.

Policy

After action reviews are intended to serve the City of Westminster as a positive and constructive “lessons learned” experience, which provides the opportunity for individual and organizational development. The focus should be on what when well, which will serve to reinforce good decision making and command actions. Often an after action review will identify what went wrong, either through the normal course of an incidents degradation, or through poor decision-making and command actions.

Identifying the actions and events that went wrong is intended to be an information sharing approach to enable others to learn from the actions and events of recent history. It should be observed that few post-incident decisions or commands resulted in a negative outcome. An after action review is not a critique to criticize, but an opportunity to enhance our development as a learning organization. Properly designed after action reviews adhering to this philosophy of learning will typically result in a positive learning experience.

Definitions or Description

After Action Review: After action reviews are a systematic and structured process for assessing and evaluating the performance of Fire Department resources during emergency incidents or non-emergency activities and events. After action reviews shall be utilized as a learning tool, intended to recognize the positive actions conducted at an incident or event, and identify any strategies, tactics, tasks, or use of deployed resources that could be improved in future incidents/events. Positive participation is encouraged to gain the most benefit possible. After Action Review may be abbreviated as AAR indicating the singular use, or AARs which indicates the plural use.
After Action Review Officer: The individual designed to develop and conduct an AAR process. Assistant AAR Officer may be designed based upon the design needs, or the complexity of the incident or event. The AAR Officer shall report to the Battalion Chief for all informal AARs. Formal AAR Officers will report to a Deputy Fire Chief or the Fire Chief.

Informal After Action Review: A review of incident operations conducted at the company or shift level and not required by the WFD command staff to be conducted as a formal AAR. While in some instances a brief AAR can be conducted on scene, it is preferred that an informal AAR be conducted after crews have returned to quarters, taken the necessary rehabilitation measures, and apparatus and equipment restored to in-service status. No formal reports shall be required from an informal AAR. However, it is recommended that any slides, pictures, diagrams or other learning aids be forwarded to the Training or EMS Coordinators for future use in training programs. Training hours may be recorded, as needed appropriate, for an informal AAR. Some form of legitimate documentation must support the number and category of training hours documented.

Formal After Action Review: A formal analysis and review of an incident or operation requested by Fire Department Command staff. The Command Staff officer shall have the latitude to determine the extent of the AAR review for a specific incident. Formal reviews can also be conducted at the request of a Company Officer or the Battalion Chief and are subject to approval by the Command Staff. Attendance at a formal AAR shall be determined based upon the needs of the Fire Department and the City of Westminster. It is strongly recommended that a formal AAR be completed within one month of an emergent incident.

Formal AARs may be appropriate for the detailed analysis and review of the following incidents types:

- Large-scale multiple company/agency incidents
- Tactically complex incidents
- Major fires
- Fire involving civilian injuries/fatalities
- Fire involving fire personnel injuries/fatalities
- Building collapse
- Multiple-trauma casualty incidents
- Multiple-medical casualty incidents
- Special rescue incidents
- Hazardous material incidents with technician-level deployment
- Transportation incidents considered complex and requiring additional resources
- Large open-space or wildland fires

Non-emergent activities or events warranting a formal AAR shall be conducted at a time designated by the activity or event manager. The activity or event manager may serve as the AAR Officer or may designate another to serve in this capacity.

After Action Review Officers

Informal AAR Officer Designation: The informal AAR will be managed by the incident’s first arriving Company Officer, unless relieved during the incident by a superior ranking officer. In this instance, this Officer shall conduct the AAR. If the informal AAR is conducted at the shift level, the Battalion Chief shall designate the AAR Officer.
Formal AAR Officer Designation: A formal AAR Officer shall be designated by a Deputy Fire Chief or the Fire Chief. A designated AAR Officer shall manage the overall AAR development and be responsible for conducting the AAR process.

The following table offers recommendations, which may serve as guidance in the designation of an AAR Officer. These are only recommendations. The Command Staff may approve alterations to these recommendations.

<table>
<thead>
<tr>
<th>Type of After Action Review</th>
<th>Incident or Event Description</th>
<th>Recommended AAR Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal AAR</td>
<td>Major incidents described in the formal AAR definition that involve use of mutual aid units or resources not normally available within the City of Westminster.</td>
<td>Deputy Fire Chief or Battalion Chief</td>
</tr>
<tr>
<td></td>
<td>Major fire incidents described in the formal AAR definition not involving mutual aid units.</td>
<td>Training Coordinator or Battalion Chief</td>
</tr>
<tr>
<td></td>
<td>Major EMS incident, or transportation incident as applicable, MCI or MMI described in the formal AAR definition.</td>
<td>EMS Coordinator or Battalion Chief</td>
</tr>
<tr>
<td></td>
<td>Major hazardous material incident, or transportation incident as applicable, described in the formal AAR definition.</td>
<td>Training Coordinator, Battalion Chief, or Hazmat Team Coordinator</td>
</tr>
<tr>
<td></td>
<td>Fire Prevention Programs (large-scale program review)</td>
<td>Fire Marshal, Fire Plans Analyst, or Fire Prevention Specialist</td>
</tr>
<tr>
<td></td>
<td>Fire Investigations (large scale investigations involving injuries, fatalities or multiple agency participation</td>
<td>Fire Marshal, Deputy Fire Chief, or Fire Investigator/Inspector</td>
</tr>
<tr>
<td></td>
<td>Public Education (large scale community events)</td>
<td>Fire Marshal, Public Education Specialist</td>
</tr>
<tr>
<td>Informal AAR</td>
<td>Station level only</td>
<td>Company Officer assigned</td>
</tr>
<tr>
<td></td>
<td>Multiple stations</td>
<td>Fire Captain, Fire Lieutenant</td>
</tr>
<tr>
<td></td>
<td>Shift level</td>
<td>Battalion Chief, Fire Captain</td>
</tr>
<tr>
<td></td>
<td>Non-emergent AAR</td>
<td>Officer in Charge</td>
</tr>
</tbody>
</table>

**AAR Officer Guidelines**

The AAR Officer should reference the FEMA USFA TR 159 document, *Special Report: The After-Action Critique: Training Through Lessons Learned*, as a resource for develop and conducting a formal AAR. Informal AARs can also be administered through the guidance of this document.

If an Incident Safety Officer (ISO) was designated during the incident, he or she shall assist the AAR Officer in the development of a formal AAR. If the Incident Commander did not designate an ISO, he or she shall perform the duties associated with the ISO in accordance with this SOG.
The AAR Officer and/or ISO may be guided by the ISO Incident Checklist in NFPA 1521, *Standard for Fire Department Safety Officer*, Annex C. This document provides a checklist of incident safety considerations considered appropriate for review during a formal AAR.

Additionally the AAR Officer or ISO may be guided by the supplemental safety reports found in NFPA 1521, *Standard for Fire Department Safety Officer*. These supplemental reports address:

- Structure fires
- EMS incidents
- Water rescue/recovery incidents
- Technical rescue incidents

The AAR Officer, or those assigned with specific AAR development responsibilities, may be guided by the “Information Needed for Blueprint of Major Incident Critiques” found in the document FEMA USFA TR 159 document, *Special Report: The After-Action Critique: Training Through Lessons Learned*.

- Fire Suppression – IC and Fire Suppression Units Questions for Review: Page 9
- Dispatch/Fireground Communications: Page 10
- Logistics/Fleet Maintenance: Page 10
- Public Information: Page 10
- Emergency Medical Services: Page 12
- Hazardous Material Incidents: Page 12

**After Action Review Summary Report**

The Officer-in-Charge of informal AARs and the designated AAR Officer for formal AAR shall submit a narrative summary of an AAR. The AAR Officer may utilize the input from others in drafting, editing, and completing the narrative report.

The narrative report shall summarize as briefly as possible:

**Incident Information:**

1. Incident date and time
2. Alarm type
3. Address of incident
4. Alarm time
5. On-duty shift
6. Officer’s shift assignments

**Incident Specific Information:**

1. Incident Commander and designated Branch, Division, Sector, or Unit Officers or Leaders (Organizational Chart will suffice)
2. Primary strategy, any significant deviation in initial strategy and what influenced the deviation in strategy.
3. Initial response group and initial on-scene assignment (do not include any Staging Assignments)
4. Additional apparatus request, personnel requests, and/or additional resources requested
5. Briefly describe the tactical considerations and incident action plan.
6. Unusual circumstances or occurrences affecting incident management, at any command level.

**Supplemental Documentation Required:**

1. Incident management organizational chart.
2. Incident Action Plan
3. Diagram of the Incident: Diagram of the emergency scene or incident depicting location of all apparatus and vehicles, fire hydrants (if applicable), supply and hose lines by length and size, and location of the command post. Additional information may be provided as warranted. Multiple incident diagrams can be utilized.
4. Utilizing a bullet-point format, identify those SOGs and actions that provided a positive contribution to the outcome. Conversely, identify those SOGs and actions that should be considered for creating and/or revising SOGs, as appropriate.

Created: November 12, 2008
Revised: January 6, 2009; January 14, 2009; February 9, 2009
APPENDIX B – EXTERNAL QUESTIONNAIRE

Developing and Implementing an After Action Review Program

I am in the final phase of my EFOP and completing my ARP. The topic is developing and implementing an after action review program. I have not asked you to identify yourself or your organization, so if you wish to communicate with me please use my email: dhall@cityofwestminster.us. Your time and assistance is greatly appreciated.

Please note the following definitions for the questionnaire:

**Informal after action review:** Conducted at the company level with a review of how well specific tactics worked and what might be done better. Multiple companies may be involved. Done fairly informally on a case-by-case basis. May involve emergency and non-emergency events/incidents.

**Formal after action review:** A detailed review and generally comprehensive analysis of large-scale, often complex, and tactically challenging operations. Typically conducted in an “official” and formal manner. Typically, results in developing a final report with specific details, action, results and lessons learned.

**Your organization:** Your fire department, fire district, or similar agency or organization.

Thank you very much.

1. **Informal After Action Reviews:** Does your organization routinely conduct informal after action review (AAR)?
   - Yes
   - No

2. **Formal After Action Reviews:** Does your organization routinely conduct formal after action reviews (AAR)?
   - Yes
   - No

3. **Does your organization have a formal and/or structured After Action Review (AAR) Program?** (Regardless of your answer please answer the next question.)
   - Yes
   - No

4. **How effective are after action reviews (AAR) conducted by your organization?**
   - Very effective (Grade A). After action reviews are a positive learning experience with a definite value to the organization. Minimal improvements required; our AARs work well.
o Effective (Grade B). After action reviews are moderate benefit from a learning perspective and to the organization. A few quality variance from AAR to AAR; overall our AARs are received in positive manner.
o Somewhat or moderately effective (Grade C). After action reviews are of some benefit from a learning perspective and to the organization. AAR process could be updated, but to the extent utilized our AAR process meets our needs.
o Minimally effective (Grade D). We go through the motions and not much else.
o We do not conduct after action reviews.

5. Is there a designed standard/template or recommended practice you adhere in developing an after action review (AAR)?
o No formal standard or recommended practice is utilized.
o Internal standard or template is utilized to develop an AAR.
o External agency/organization standard or template is utilized to develop an AAR.
o Combination of internal and external agency/organizational standard/templates is utilized to develop an AAR.

6. Which of the following recognized industry standards or organizational protocols are utilized in developing an AAR? (Check all that apply)
o International Code Council codes and standards.
o National Fire Protection Association codes and standards.
o Medical protocols from a state or local EMS organization.
o National Incident Management System criteria.
o Occupational Safety and Health Administration regulations (Federal or State plans).
o Environmental Protection Agency regulations (include state/local environment regulations).
o Other (Please see question #7. Please answer “none” if there are no additional standards or protocols.)
o No standards or protocols are utilized.

7. What other agency or organization standards are utilized in developing an AAR?

8. Informal AAR: Which of the following would typically require an informal after action review in your organization? (Check all that apply)
o Structure fires.
o Multi-alarm structure fires.
o Multi-casualty vehicle accidents.
o Special rescue scenarios.
o Hazardous material incidents.
o Community disasters i.e. blizzards, earthquakes, floods, hurricanes, tornadoes, etc.
o Special events i.e. community fairs, community parades, concerts, political events such as Presidential visits and rallies, revivals, auto/motorcycle exhibitions/events, etc.
9. Informal AAR: As a matter of routine practice which of the following most closely aligns with format and manner of presentation for your organization’s informal after action reviews?
   - Written and/or electronic incident report only.
   - Written and/or electronic supplemental report required in addition to the incident report.
   - Oral briefing or presentation only, with AV and/or IT technological support developed, as warranted, for the event/incident AAR.
   - Written reports and oral briefing or presentation, with required AV and/or IT support developed specifically for the event/incident AAR.

10. Formal AAR: Which of the following would typically require a formal action review in your organization? (Check all that apply)
   - Structure fires.
   - Multi-alarm structure fires.
   - Multi-casualty vehicle accidents.
   - Special rescue scenarios.
   - Hazardous material incidents.
   - Community disasters i.e. blizzards, earthquakes, floods, hurricanes, tornadoes, etc.
   - Special events i.e. community fairs, community parades, concerts, political events such as Presidential visits and rallies, revivals, auto/motorcycle exhibitions/events, etc.

11. Formal AAR: As a matter of routine practice which of the following most closely aligns with format and manner of presentation for your organization’s formal after action reviews?
   - Written and/or electronic incident reports only.
   - Written and/or electronic supplemental reports requiring in addition to the incident report.
   - Oral briefing or presentation only, with AV and/or IT technological support developed, as warranted, for the event/incident AAR.
   - Written reports and oral briefing or presentation, with AV and/or IT technological support developed specifically for the event/incident AAR.

12. Formal AAR Only: Does your organization control or restrict who can attend a formal AAR briefing?
   - Yes
   - No
   - Not applicable to our organization

13. Formal AAR Only: If formal AAR briefing attendance is controlled or restricted which of the following most aptly describes your organization’s approach?
   - Attendance is restricted to pre-selected invitees only.
   - Attendance is open to only those directly involved in the event/incident. (I.e. designated stakeholders, including but not limited to on-scene personnel, communication personnel, mutual/auto-aid agencies, post-incident personnel, etc.)
o Attendance is open to anyone interest in the event/ incident.
  o Not applicable to our organization.

14. What do you see as the most significant benefit to your organization in utilizing after action reviews (AAR)?

________________________________________

15. Which best describes your organization?
  o Fire department (municipal)
  o Fire department (special district)
  o Fire department (federal)
  o Fire department (private sector)
  o Fire department (other)
  o Emergency medical services agency/organization
  o Emergency management agency/organization
  o Other government agency/organization
  o Private sector agency/organization
  o Other, not listed above

16. Which most closely describes your organization’s typical staffing for emergency response deployment? (For this questionnaire please include part-time and paid-on-call in the combination description.)
  o All career (100%)
  o All volunteer (100%)
  o Combination career and volunteer

17. Fire Service Organizations: Please identify your position or rank. If you are a civilian and hold a position such as IT Manager or Chief Financial Officer, etc. please align your position accordingly for your organization.
  o This question us not applicable to me
  o Chief Executive Officer - Fire Chief
  o Administrative Chief Officer
  o Operations Chief Officer
  o Company Officer – Administrative
  o Company Officer – Operations
  o Administrative – Uniformed employee; not an Officer
  o Administrative – Civilian employee
  o Firefighter

18. Non-Fire Service Organizations: Please identify your position or rank.
  o The question is not applicable to me
  o Chief Executive Officer
  o Administrative or Management Executive
  o Supervisor or Manager (Non-Executive)
  o Professional or Technical
  o Other
APPENDIX C – INTERNAL QUESTIONNAIRE

After Action Review Questionnaire
Westminster Fire Department Personnel

1. As an employee of this organization have you ever participated in a “hot wash.”?

2. As an employee of this organization, have you ever participated in a critique or after action review?

3. If your answer to question #1 and #2 was no, do you see any benefit in conducting a hot wash, critique or after action review?

4. If your answer to question #1 and #2 was yes, did you realize any benefit from participating in a hot wash, critique or after action review?

5. Do you see a need for increased usage of after action reviews for:
   a. MCI incidents regardless of mechanism of injury
   b. Structure fires
   c. Hazardous material incident
   d. Incidents involving civilian:
      i. Injury(s)
      ii. Fatality(s)
   e. Incidents involving fire personnel
      i. Injury(s)
      ii. Fatality(s)

6. Would it be beneficial to conduct an after action review for non-emergent events requiring utilization of fire department personnel and resources, i.e. the Westminster Faire, the July 4th fireworks show, the 9News Health Faire, or other large public or private public education programs?