Gig Harbor Fire:
Prioritizing Company Pre-Fire Planning for Commercial Buildings

Leading Community Risk Reduction

By: Tracy B. Lyon
Training Division Chief
Gig Harbor Fire & Medic One
Gig Harbor, WA

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Certification of Statement

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

Signed: Tracy B. Lyon
ABSTRACT

The problem is the Washington State Rating Bureau has found Gig Harbor’s company pre-fire program is deficient and inconsistent because the Gig Harbor Fire Department does not provide for the annual walk-through of commercial buildings.

The purpose of this research is to identify how the Gig Harbor Fire Department can improve its annual pre-fire walk-throughs to meet Washington State Rating Bureau criteria.

The research questions answered by descriptive research were: 1) What is the current level of pre-fire review and walk-through being conducted? 2) What level of pre-fire review is needed for the Gig Harbor volunteer firefighters? 3) What obstacles may keep Gig Harbor Fire from meeting 100% compliance with the Washington State Rating Bureau? 4) If 100% compliance is not achievable, what level of compliance is Gig Harbor Fire willing to accept?

With direct impact on the topic, a literature review of material was conducted. Interviews were conducted of key personnel from agencies with overlapping pre-fire knowledge, key personnel from three similar fire departments, and senior officers within Gig Harbor Fire & Medic One. Outcomes of a survey given to lieutenants of Gig Harbor Fire were evaluated.

The results of the research indicate a number of operational changes that will be developed, and put into practice a company level plan to compliment the current pre-fire program.
# Table of Contents

Certification Statement ................................................................. page 2

Abstract ..................................................................................... page 3

Table of Contents ................................................................. page 4

Introduction ................................................................................. page 5

Background & Significance ............................................................... page 6

Literature Review ................................................................. page 12

Procedures .................................................................................... page 16

  Limitations ............................................................................. page 18

  Definition of Terms ............................................................... page 18

Results ..................................................................................... page 21

  Table #1 ............................................................................. page 37

Discussion .................................................................................... page 38

Recommendations ............................................................................. page 41

Reference List ............................................................................. page 44

Appendix A: Fire Service Survey .................................................... page 46

Appendix B: Fire Marshal Questionnaire ............................................ page 47

Appendix C: Fire Service Questionnaire ............................................. page 48

Appendix D: Participant Letter ...................................................... page 49

Appendix E: Pre-Fire Planning Goals ................................................ page 50

Appendix F: Pre-Emergency Plans SOG ........................................... page 51
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INTRODUCTION

Sun Tzu, as translated in the book The Art of War (Huang, 6 BC/1993, pp 55), once said, “Victorious warriors win first and then go to war, while defeated warriors go to war first and then seek to win.” Nowhere does this hold more truth than the ongoing battle waged by the fire service. Training, maintenance, and prevention all play key roles in winning the battle to save life and property.

No longer with the single task of fire suppression, the fire service finds itself in the ever expanding role of community problem solvers. Medical aid, technical rescue, hazardous materials, and community safety programs all battle for limited time and limited funds.

In order to focus on what is important to and for their communities, many agencies continue to struggle with the hierarchy of tasks. Others utilize outside resources to assist in determining their strengths and shortfalls. While not always the best solution, due to the one size fits all approach, these outside agencies do allow for a yardstick measurement of performance which is often set to a national standard.

The Washington Surveying & Rating Bureau (WSRB) evaluates fire defenses and water supplies of cities and county Fire Protection Districts to determine comparative public protection classifications for insurance rating purposes. As with many agencies, Gig Harbor Fire & Medic One utilizes the WSRB’s final report to make adjustments in training, equipment, operations, and prevention.
The problem is the Washington State Rating Bureau has found Gig Harbor Fire & Medic One’s company pre-fire program deficient and inconsistent because Gig Harbor Fire does not provide for regular familiarization walk-throughs and review of commercial buildings.

The purpose of this research is to identify how Gig Harbor Fire & Medic One can improve its pre-fire familiarization walk-throughs to meet the Washington State Rating Bureau criteria. This applied research study uses a descriptive method to answer the following questions:

1. What is the current level of pre-fire review and walk-through being conducted?
2. What level of pre-fire review is needed for the Gig Harbor volunteer firefighters?
3. What obstacles may prevent Gig Harbor Fire & Medic One from meeting 100% compliance with the Washington State Rating Bureau’s criteria?
4. If 100% compliance is not achievable, what level of compliance is Gig Harbor Fire & Medic One willing to accept?

BACKGROUND AND SIGNIFICANCE

The Gig Harbor Peninsula lies in the southern tip of Puget Sound in Washington State. Covering an area of 56 square miles, the community is primarily upper-middle class in a suburban atmosphere. The city of Gig Harbor sits in the center of the peninsula surrounded by unincorporated Pierce County. The combined population of the area is roughly 45,000 and rapidly growing.
In the spring of 1944, a devastating fire in the northern portion of the city destroyed several shore-side businesses including a restaurant, barber shop, post office, and a shipyard. John Finholm, a community businessman, gathered a number of friends and neighbors to discuss setting up a fire department. Later that year a petition was presented to the Pierce County Board of Commissioners, and on January 6, 1945, Pierce County Fire District #5 was born.

Sixty-two years later, the fire department struggles to keep pace with the unprecedented commercial and residential growth associated with the opening of the second Tacoma Narrows Bridge in 2007. While many issues dealing with staffing, response times, and training have remained the focal point, an unexpected visit from the WSRB in September of 2007 provided insight into a few specific issues that were not being addressed.

One such issue was the performance of company level inspections. To receive maximum credit, the WSRB grading sheets (WSRB 2007) call for an annual inspection and diagram of each building. The current program within Gig Harbor Fire included an initial walk-through of the structure with little or no follow-up. The WSRB grading sheet also called for the integration of pre-fire planning into the company training. While every responding apparatus carried a current pre-fire book, it was rarely, if ever, used for company level training.

Though not meeting the full intent of the standard, historically Gig Harbor Fire has made a good faith effort to infuse pre-fire planning into its operations. In 1984, using basic occupancy information, the agency began creating hand-drawn drawings for high risk occupancies such as schools, apartment buildings, and the one hotel. The drawings
were completed by 3 career personnel. During this time, they would walk-through the buildings to compare completed drawings.

In 1990, a part-time employee was hired with the specific task of cleaning up and up-dating the pre-fire plans. Walk-throughs were still being accomplished, but it was done on an individual basis and still limited to a single tour through the building with no objective other than to make sure the drawing was accurate.

Two years later, Division Chief Penny Hulse was hired to lead the newly formed Prevention Division. Initially Chief Hulse was assigned to develop education programs within the community, and the pre-fires were assigned to the engine companies. With the increased commercial growth and lack of focus on the program, the agency fell behind. Firefighter Dave Johnston was placed on days to coordinate bringing the pre-fire program up-to-date.

In 1996, in an effort to improve efficiency with the program, DC Hulse instituted the use of the Fire Zone software program to improve the speed and detail over the hand-drawn pre-fires. Efforts were made to have all personnel do, at a minimum, the initial walk-through of all commercial structures. If only one crew was able to do the walk-through, the other two companies would review the finished pre-fire plan.

Currently, the department has assigned Prevention Specialist Steve Bowman as the overall supervisor of pre-fire planning. With a background in engineering, PS Bowman’s primary focus is the completion and distribution of the pre-fire plans.

As the program stands today, PS Bowman completes a pre-fire plan using the Fire Zone program and then sends it to a lieutenant in charge of a company (Addendum E, F). This lieutenant then assigns one crew to verify the plan is correct as drawn. The plan,
once approved, is then placed into three-ring binders in all response apparatus and in the department library. Gig Harbor volunteer firefighters are not included in any part of this process.

On September 13, 2007, Jeff Zechlin, the Senior Field Representative for Public Protection of the Washington State Rating Bureau, met with Assistant Chief Eric Watson and me. The meeting was to do a cursory rating of updates Gig Harbor Fire had done since its last official rating in 2004. The meeting took place in the Training Division Office in the afternoon.

As we evaluated the training portion of the grading schedule, we came to item 13.1g Pre-Fire Planning (WSRB, 2007) which requires, for maximum credit, an annual inspection and diagram of each commercial building in the Fire District. In addition the grading schedule calls for the inspection data and records to be integrated into company training.

My initial interpretation of this information was that Gig Harbor firefighters were to provide inspections on commercial structures, something they had not been trained to do. As the training officer, my immediate desire was to develop a program to train company-level personnel on commercial building inspections. As I began my research, a number of issues arose that demonstrated my interpretation was incorrect.

The first indication I was addressing the wrong problem occurred during my interview with Puyallup City’s Fire Marshal Ken Brouillet. FM Brouillet informed me that as a county agency, Gig Harbor Fire Department did not have the authority to do inspections within the city of Gig Harbor nor the county at large. That responsibility resides within the jurisdiction of the Gig Harbor City Fire Marshal and the Pierce County
Fire Marshal’s office respectively. FM Brouillet’s recommendation was to contact the WSRB and ask for specific job tasks needed to meet the grading schedule.

The second indication came from Gig Harbor Fire’s Prevention Division Chief Penny Hulse. DC Hulse confirmed that Gig Harbor company-level personnel do not perform inspections and never have. She stated that the inspection and code enforcement requirements have always been carried out by the Pierce County Fire Marshal’s office.

The pathway to this research project’s problem finally deviated from its original intent after my interview with Jeff Zechlin of the WSRB. Mr. Zechlin confirmed the information provided to me by Fire Marshal Brouillet and DC Hulse. It was Mr. Zechlin’s recommendation that Gig Harbor Fire look into developing and implementing a program that would allow the company level personnel to learn the commercial structures within the Fire District.

This research project will help identify solutions to allow Gig Harbor Fire & Medic One administrators to decide the most appropriate actions to take when defining the benefits and limitations of conducting company-level, pre-fire inspections. In addition, this applied research will be used to meet two objectives for the students of the National Fire Academy’s Leading Community Risk Reduction Course.

The first objective is to meet the requirements of the executive fire officer “to analyze organizational attitudes towards risk reduction.” (National Fire Academy [NFA], 2007, SM 3-1). This will be accomplished by using the information gathered to determine if the needs of the WSRB and the needs of Gig Harbor Fire are similar, and if so to what degree.
The second objective is the executive fire officer’s ability to “identify strategies for building organizational equity for community risk reduction.” (NFA, 2007 SM 3-1). By utilizing the research information gathered, Gig Harbor Fire & Medic One administrators will be able to determine a future strategy to instill a prevention priority within the rank and file.

Finally, this applied research will provide Gig Harbor Fire & Medic One the ability to directly impact two of the five operational objectives of the U.S. Fire Administration (United States Fire Administration [USFA], 2003, II-2). First it will allow the organization “to provide within communities a comprehensive, multi-hazard risk-reduction plan led by the fire service organization.” This will be accomplished by determining the most efficient way to familiarize personnel with the potential risks associated with local commercial structures.

The second operational objective will be “to respond appropriately in a timely manner to emergent issues” (USFA 2003). Gig Harbor Fire & Medic One is a leader in the fire service community in prevention and public education. The agency’s mission statement assures that the Gig Harbor Fire Department will “…continually strive for improvement.” By addressing this issue as a priority within the agency, Gig Harbor Fire will continue to meet the needs of the community while improving future prevention.

LITERATURE REVIEW

While fire prevention is frequently viewed as a secondary job by many front-line firefighters, fire service literature documents the benefits of being proactive in prevention. One of the original sources for recognition and prevention is the groundbreaking America Burning (NCFPC, 1973) which recommends that firefighters conduct
pre-fire planning in conjunction with familiarization inspections of structures which they may be required to respond.

Firefighting Principles and Practices (Clark, 1991) makes a clear correlation to the importance of pre-fire planning and fire departments becoming acquainted with the potentials created by fire. The department gains the advantage when fighting the fire as long as they identify any potential problems and address those problems.

Even more on point, demonstrating advantages of preparation, is Firefighting Strategy and Tactics (Delmar, 2001) which equates firefighter pre-planning to a coach having a playbook at a game. Pre-fire planning allows firefighters to fight the fire before it actually happens.

Preparation and planning of commercial structures is not limited to the fire service. Tactical operations in a structure are of frequent concerns to other officials. In Rudy Giuliani’s biography, Leadership (Giuliani, 2002), Mayor Giuliani describes the difficulty of preparing for a dinner at the Grand Hyatt Hotel and how advanced knowledge of such things as entrances, exits, and even restrooms allowed for safer movement and increased efficiency.

A thorough investigation of needs is provided in Firefighting – Basic Skills and Techniques (Goodheart-Wilcox, 1998) where it is acknowledged that fireground commanders must manage extremely large amounts of information in a short period of time. Without prior knowledge of the building, the fireground commander is more likely to make a delayed, or worse, incorrect decision. Fireground commanders should possess a complete knowledge of on-site survey, the best route to reach a structure, and water sources available for each structure.
Volunteer firefighters have been a staple of the Gig Harbor Fire Department since the organization’s inception. Over the years, expectations of the volunteer staff have grown in some areas and decreased in others. One area in which the volunteer firefighters have never been a part is formal and regular pre-fire planning.

Productivity comes from challenged, empowered, excited, and rewarded teams of people (Edwards, 2000). When everyone in the organization is allowed a voice, a role, and part of the action, the organization will be a success and productivity will multiply.

In the report Leading the Transition in Volunteer and Combination Fire Departments (VCOS, 2005) the path to maintaining a successful combination fire department is to fully integrate the volunteer and career firefighters at the tactical level. Attaining this goal would require formal training and education to a specified performance level for all personnel, from firefighter through senior fire officer.

A sense of equity needs to be established so career and volunteer firefighters are treated essentially the same given the same circumstances. (Edwards, 2000) The balance is often difficult to maintain; but to the extent it can be maintained, the department will operate much smoother.

To provide an efficient combination department, a number of issues must be addressed. (Coleman, 2002) Training and education of all personnel, good communications, deployment and incident criteria, compensation, career development, and human relations are all aspects of a well-rounded program where conflicts are avoided.

Conflicts within a combination agency may occur if there is exclusion in pre-fire familiarization walk-throughs due to feeling that one group is better trained or more
experienced than the other (FEMA, 1998). The reverse is also. If volunteers are included in the pre-fire program, career staff may feel that the volunteer staff misrepresents itself to the public.

Yet we can’t ignore the fact that volunteer firefighters are responding and may assist the career personnel in fire combat. Ultimately, the effects on volunteer firefighters in the fire operation’s role are far reaching. Strong policies, good training, and enforcement of policies are all important issues in the aspect of fire service safety (Barr, 2003).

What issues may create obstacles and hinder increasing Gig Harbor’s pre-fire planning? In general, the fire service experiences difficulty in justifying expenses because fire service goals are difficult to measure and quantify. The fire service is getting better at inferring causation by utilizing the National Fire Service Incident Reporting System (NFIRS) developed by the U.S Fire Administration (Edwards, 2005).

Financial impacts play a role at all levels of the fire service. One frustration faced by fiscally strapped departments is the need to look to the fire prevention division when forced to cut back expenditures. In some cases financially strapped agencies may even have to reduce or eliminate the entire division for a period of time (Barr, 2003).

Potentially the largest obstacle is the ever expanding role firefighters play in public protection. The added workload is not hinged strictly to the emergency response itself. In his article on engine company inspections, Ronny Coleman points out that the training and logistics involved with the addition of peripheral work such as emergency medical service may be consuming time that would otherwise be spent on company inspections (Coleman, 2006).
So, if 100% compliance is not achievable, what level of compliance is Gig Harbor Fire & Medic One willing to accept? By striving for the 100% available points for pre-fire planning, the department may have to reduce performance in other areas.

The traditional approach to performance measurement is to breakdown performance into its components and behaviors consistent with functional departmental structures. The problem is an organization’s most critical work processes tend to span multiple functional or departmental boundaries, and the outcome of those work processes depend not on any one function but on the actions taken by people in each of those functions (Gittell, 2003).

Since pre-fire planning only constitute 10% of the total points for the training section (WSRB, 2007) and Gig Harbor Fire Department already receives 5% of those points, it’s possible the administration will decide not to make any changes.

Ultimately the additional points may lead to a reduction in classification, thus reducing insurance premiums to the Fire District’s residents and businesses. It’s also true that the costs to do so may actually exceed the improved insurance ratings realized. Fire chiefs, seeking bragging rights that go along with lower classifications, often make improvements without comparing the cost of improvements to the benefit of the taxpayer (Barr, 2003).

In summary, the literature reviewed provided an overview of the importance of conducting pre-fire walk-throughs and familiarization with commercial buildings. The literary research for this project developed a perspective on the importance and need to require volunteer firefighters’ inclusion in pre-fire planning.
The literature review also gave insight into what potential obstacles face Gig Harbor Fire in its attempt to reach full compliance with the WSRB. Finally, the literature review emphasized the extreme complexity and challenges that may ultimately make Gig Harbor Fire decide achieving full compliance is not realistic given the current situation.

PROCEDURES

Research was conducted by utilizing three primary procedures. A literature review of associated material was done at the National Fire Academy Learning Resource Center while in attendance of the Leading Community Risk Reduction class. Additional literature was located in the Gig Harbor Fire Department library, the Pierce County Public Library, and books owned by the author. A number of internet sites were also utilized to locate material.

The second procedure of the research involved a fire service questionnaire (Appendix A) conducted with Gig Harbor Fire’s shift fire lieutenants. The fire lieutenants were chosen to complete the questionnaire due to their leadership position as well as their firsthand knowledge of the potential obstacles faced in order to accomplish the pre-fire walk-through. Additionally, company buy-in would be essential for any potential changes in the workload. The lieutenants’ knowledge and experiences with their assigned personnel would be paramount in instituting change.

The questionnaire and a cover letter (Appendix D) were provided to all sixteen Gig Harbor career fire lieutenants and six volunteer lieutenants. The survey was distributed by hand during the first week of January 2008 with the request to have it completed and returned to the Training Division in the inter-office mail system. No time limit was placed on the return, but there was a request to return as soon as possible.
The questionnaire was also provided to the three Gig Harbor Battalion Chiefs. The survey was distributed by hand during the first week of January 2008 with the request to have the questionnaire completed and returned to the Training Division in the inter-office mail system. No time limit was placed on the return, but there was a request to return as soon as possible.

The purpose of the questionnaire was to determine if each Gig Harbor Fire Lieutenant was knowledgeable of current pre-fire practices, had an opinion on using or allowing volunteer staff to conduct pre-fire familiarization, and thought it necessary to improve on the current pre-fire program.

The questionnaire also provided a tool to evaluate how close or diverse all of Gig Harbor’s fire officers were when it came to the subject of pre-fire familiarization.

The third procedure involved interviews with specific agency individuals considered primary sources of requested information.

Personnel from outside agencies were the first to be interviewed. The questions (Addendum B) were designed to assist when answering questions 1, 3, and 4 of the research problem. Because of the need to clarify the objective of this research project, this author first looked for different agencies with overlapping responsibilities. For instance, Gig Harbor Fire Marshal Dick Bower and Pierce County Deputy Fire Marshal Bill Steele are representatives of two different government agencies responsible for conducting fire inspections and investigations within the Gig Harbor Fire’s response areas. Both interviews took place by phone while each Fire Marshal was in his office and lasted 30 minutes.
Initially the interview with Puyallup City Fire Marshal Ken Broulleit was designed to gain information about commercial inspection programs. The interview was conducted at the Puyallup Fire Department Headquarters station immediately following a lecture about inspections by FM Broulleit. This interview lasted for one hour.

Due to the change in the research project, a clarification was needed to address any other WSRB questions. The interview with WSRB Representative Jeff Zechlin lasted for 25 minutes. After a number of e-mails and phone messages this author was finally able to make contact with Mr. Zechlin. The questions and answers were discussed over the phone while Mr. Zechlin was in his Seattle office, and I was in my Gig Harbor Fire office.

The second group of individuals to be interviewed was fire service personnel responsible for pre-fire planning in neighboring fire departments. The departments were chosen because they were comparable in size and response, had a substantial commercial development, and their staffing included volunteer firefighters. The questions (Addendum C) were designed to answer questions 1, 2, and 3 of the research problem.

Division Chief Chuck West of the Key Peninsula Fire Department was the first to be interviewed. The interview took place on January 15, 2008 in DC West’s office and lasted 25 minute.

Assistant Chief Keith Wright of Central Pierce Fire & Rescue was the second to be interviewed. The interview took place on February 6, 2008 in AC Wright’s office and lasted 20 minutes.
The final external interview was conducted with Assistant Chief Tim Larue of the University Place Fire Department. The interview took place February 12, 2008 in AC Larue’s office and lasted 30 minutes.

The third group chosen to be interviewed was the internal staff at Gig Harbor Fire & Medic One. This group would ultimately make the decision to change operations and prevention procedures. Each interview took place in the offices of those being interviewed with the exception of Battalion Chief Mike Miller who was interviewed while working out in the Station 51 gym.

Operations Chief John Burgess was interviewed on January 18, 2008 and the interview lasted approximately 45 minutes. The interview was interrupted twice by AC Burgess so that he could answer his phone.

Division Chief Penny Hulse was interviewed on February 1, 2008, and the interview lasted 20 minutes. DC Hulse also answered a number of questions pertaining to the original problem this paper attempted to research. These questions were answered by phone while DC Hulse was in her office.

Battalion Chiefs Todd Meyer and Erik Pearson were interviewed in the Battalion Chief’s office at Station 51. Both interviews lasted 30 minutes with a single interruption of a phone call for BC Pearson. BC Meyer’s interview took place on January 31, 2008 and BC Pearson took place on February 5, 2008.

Battalion Chief Mike Miller’s interview took place while he was working out at 1730 in the gym at Station 51 on February 4, 2008. BC Millers interview took 20 minutes to complete.
The final interview was conducted with Volunteer Battalion Chief Terry Teeple, Sr. The interview took place in my office at Gig Harbor’s Station 50 Headquarters. The interview was held on February 12th and lasted 30 minutes.

Limitations

A significant limitation to the research was found when discussing the roles of other agencies’ volunteer firefighters. Gig Harbor Fire & Medic One utilizes its volunteers as combat firefighters. Two other agencies, Key Peninsula Fire and University Place Fire, allow their volunteers to conduct live fire combat. The fourth agency, Central Pierce Fire & Rescue, provided limited roles for its volunteer personnel and does not include fire combat. Central Pierce Fire & Rescue limited a productive measurement to address question #2.

Definition of Terms

Authority: Relates to the empowered duties of an official. In the case of a fire inspector, the level of an inspector’s authority is commensurate with the enforcement obligations of the governing body (IFSTA, 2004).

Enforcement: The process of inspecting structures for fire code violations and any follow-up necessary to ensure that any violations have been corrected (Goodheart-Willcox, 1998)

Company: A team of firefighters with apparatus assigned to perform a specific function in a designated response area (Delmar, 2001).

Inspection: A formal examination of occupancy and its associated uses or processes to determine its compliance with the fire and life safety codes and standards (IFSTA, 2004).
Pre-Fire Plan: A document developed in anticipation of a fire in a given building. It includes information regarding the building’s construction, occupancy, exposures, and the available public and private protection (Goodheart-Willcox, 1998)

Pre-Fire Planning: Advance planning of firefighting operations at a particular location, taking into account all factors that will influence firefighting tactics (IFSTA, 1998).

Walk-through: An informal examination of an occupancy designed to provide manageable means of producing current and accessible pre-fire plan (Addendum #3).


RESULTS

By utilizing the three different procedures, surveys (Appendix A), interviews (Appendix B and C), and literature review, the author was able to answer the questions listed in the introduction. Questions 2 and 3 were answered by the interviews and literature review. Questions 1 and 4 were answered by combining the results of the survey, the literature review, and interview question 3 of Appendix B. The results provide a better understanding of pre-fire planning issues which exist within Gig Harbor Fire Department and the other four similar agencies.

Jeff Zechlin, field representative for the WSRB, was interviewed using the questions listed on Appendix B. Mr. Zechlin provided a clearer direction to take the research project due to this author’s initial misinterpretations.

Mr. Zechlin’s reply to question #1 also answered question #4 where he stated that the expectations of the WSRB are that each firefighter, either as a company or an
individual, should review all commercial pre-fire plans at least once a year. This would allow for the maximum rating points and was considered adequate to meet the requirements of the WSRB.

Mr. Zechlin continued by stating that while it is true Gig Harbor Fire & Medic One is not responsible for commercial building inspections, he would highly recommend each firefighter actually enter each commercial structure at least once every three to five years. Mr. Zechlin was clear that while this suggestion was for safety and familiarization, it was not a requirement of the WSRB.

Mr. Zechlin’s reply to question #2 acknowledged that there may be some drawbacks, mainly in the amount of time expended to increase the number of pre-fire walk-throughs. Mr. Zechlin stated he understood that there may be trade-offs with the need to curtail other activities, and those issues would need to be addressed when determining which has priority.

When asked question #3 concerning the amount of involvement volunteer firefighters should have with pre-fire planning, Mr. Zechlin stated that the degree of training and pre-fire planning a volunteer firefighter has should be commensurate with the amount of activity to which the volunteers will be involved. For instance, if the volunteer firefighters are first-due to a structure fire and expected to go in, their training should be equivalent to the career staff. If the volunteer firefighters are being utilized as a back-up crew or under the supervision of the career staff, the pre-fire training can be left up to the needs of the organization.
Dick Bower, Fire Marshal for the City of Gig Harbor, was interviewed using the questions listed on Appendix B. FM Bower was able to provide a clearer direction to take the research project due to this author’s initial misinterpretations.

FM Bower’s reply to question #1 acknowledged that Gig Harbor Fire has no authority to conduct fire inspections or investigations. FM Bower went on to state that the city contracts some of its fire investigations to the Pierce County Fire Marshal’s office, but the vast amount of inspections are conducted by his office.

FM Bower’s answer to interview question #2 indicated that he understood there might be some time management issues as well as some minor added costs, but overall the increase in pre-fire familiarization is a win-win for the department and the public. The opportunity for firefighters to look for hazards they would not have been aware of, the chance to make public contact, and answer questions from the business owners would outweigh any negative aspects.

FM Bower answered question #3 by stating that a long time ago he was a member of a volunteer fire department where that agency required volunteers to conduct annual inspections of commercial structures. FM Bower believes it is essential that all personnel find a way to get inside the building prior to an emergency, and volunteers need just as much pre-fire planning as career firefighters.

FM Bower’s answer to question #4 was that he felt all personnel should routinely walk-through commercial businesses. He acknowledged that with the explosion of local commercial businesses routine walk-throughs would be an unrealistic expectation. FM Bower recommended that the department take a close look at target hazards such as schools, hotels, and nursing facilities.
Bill Steele, Deputy Fire Marshal for Pierce County, was interviewed using the questions listed on Appendix B. FM Steele was able to provide a clearer direction to take the research project due to this author’s initial misinterpretations.

FM Steele’s reply to question #1 stated that he believed Gig Harbor Fire has a moral responsibility to the businesses and community to provide a cursory inspection to look for glaring safety violations. FM Steele acknowledged that Gig Harbor Fire does not have a jurisdictional obligation for code enforcement within the county area. In his opinion, FM Steele felt that while engine-companies were doing their regular walk-throughs, firefighters could be looking for blocked exits, expired extinguishers, or other obvious hazards.

FM Steele’s answer to interview question #2 was that the only problem he could find if pre-fire planning was increased would be how engine-companies handled immediate hazards that potentially are criminal in nature. Once again FM Steele discussed firefighters finding locked or blocked exits or improperly stored flammable liquids. FM Steele stated that firefighters would need to understand the importance of documenting the infraction along with mitigating the problem.

FM Steele answered question #3 by stating that pre-fire planning for volunteer firefighters should not be any different than planning conducted with the career firefighters. Building familiarization, pre-fire plan review, and inspection training should be completed on a regular basis. FM Steele believed that this training could be conducted during evening training sessions to meet the volunteer firefighter’s schedule and potentially provide building walk-throughs during late business hours.
FM Steele’s answer to question #4 is that he felt fire service personnel should be inside the buildings on a regular basis, a minimum of once a year. While once a year may seem sufficient, FM Steele pointed out that during his annual inspections he frequently finds building layout, contact information, and response access changes; firefighters must be aware of these changes before the need for emergency operations.

Ken Broulleit, Fire Marshal for the City of Puyallup, was interviewed using questions listed on Appendix B. FM Broulleit was able to provide a clearer direction to take the research project due to this author’s initial misinterpretations. In fact, it was this interview which led the author to change the direction of the research.

FM Broulleit’s reply to question #1 was more of an answer to what Gig Harbor Fire is not allowed to do. FM Broulleit stated that while the Puyallup firefighters conduct inspections on target hazards, Gig Harbor Fire does not conduct inspections because the area is under the jurisdiction of the Pierce County Fire Marshal’s office. FM Broulleit continued by stating that while it is possible to have interlocal agreements between Gig Harbor and Pierce County, ultimately the inspections are bargaining unit work and would need to be negotiated with the Fire Marshal’s office.

FM Broulleit’s answer to question #2 was to determine what the high risk occupancy loads are. Institutions, schools, churches, and similar facilities need to have a higher focus than small businesses. By identifying high risk occupancy loads, the agency can control the amount of time dedicated to pre-fire walk-throughs thus reducing the overall impact to the workload of other projects. FM Broulleit went on to say that the biggest obstacle the agency is most likely to face is the buy-in from all the personnel,
from chief to firefighter. Buy-in of those involved will need to be achieved; otherwise the program may work initially and then fall apart.

FM Broulleit’s answer to question #3 was that the volunteer firefighters do not need nearly as much training as the career firefighters since they are not normally first on or first in. FM Broulleit’s continued that it would be beneficial for volunteer firefighters to occasionally receive training on how to read pre-fire plans and scheduling a drill activity at a target hazard in the volunteer company’s area would include building familiarization.

FM Brouilleit’s answer to question #4 is that he thought a simple program of building familiarization would meet the needs of both Gig Harbor Fire and the WSRB. Creating a list of need to know items including access points, fire department connections, exits, and storage or warehousing of products would make walk-throughs less time consuming but give the firefighters the needed pre-fire planning information.

Keith Wright, Assistant Chief of Field Operations with Central Pierce Fire & Rescue, was interviewed using questions listed on Appendix C. AC Wright was able to provide information on his department’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

AC Wright reply to question #1 was that a firefighter is assigned to distribute Quick Action Plans (QAP’s). The QAP is sent out and assigned to the crews. The crews draw up the plans and then place them into the pre-fire planning book. AC Wright went on to say that the original program worked well for years but lost focus and fell apart when no single individual was made responsible for the program. This has changed recently because the program is being overseen by firefighters placed on light-duty.
AC Wright’s answer to question #2 pointed out the possibility of a potential backlash from the crews because they don’t have time to complete their other assigned tasks. The time required to enter the information into the drawing program alone is overwhelming and increasing that will cause a dramatic loss of time for other duties.

AC Wright’s response to question #3 and #4 was that their volunteers do not conduct pre-fire planning. AC Wright acknowledged that with the rapid growth of career personnel in his agency, there is limited amount of combat work for their volunteer personnel. Since their volunteers come from home and do not respond in apparatus, any combat firefighting will be conducted with career personnel limiting the volunteers need for building knowledge.

To question #5, AC Wright stated that the one continuing problem is the data entry and drawing of the buildings. There is a large amount of time and inconsistency involved, and he believes the most efficient way to fix the problem would be to hire someone whose only job would be computer entry for pre-fire plans.

Chuck West, Division Chief of Technical Service with the Key Peninsula Fire Department, was interviewed using questions listed on Appendix C. DC West was able to provide information on his department’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

DC West’s answer to question #1 describes Key Peninsula Fire’s process of pre-fire planning. Shift personnel are provided a list of businesses which need a plan drawn or updated. A walk-through of the business is then scheduled with the property manager, and the assigned shift conducts a walk-through. Along with sketching the building for
later computer aided drawings, the crews also review the location of the utilities and target hazards located inside and outside of the structure.

DC West’s answer to question #2 was additional pre-fire workload could potentially take his personnel out of service during the day time. DC West stated that the Key Peninsula is a long narrow area which makes for long response times. Given that the majority of commercial development is in the north end of their fire district, DC West believed that having firefighters there more often would place them out of position for the rest of the coverage area. DC West also had concerns about the time management of the crews and what other job requirements would suffer due to increased pre-fire planning.

DC West’s answers to questions #3 and #4 were that the volunteer firefighters of his department are not currently involved with pre-fire planning. He went on to say that the volunteer firefighters are aware of the location of the pre-fire manuals on all apparatus and understand how to interpret the information on the plans. DC West did think that additional training could be provided for target hazards such as schools.

DC West’s answer for questions #5 was that he would improve the pre-fire program by placing all pre-fires on computer programs within the apparatus. Currently the number of computer terminals in his apparatus is limited, and they do not have access to the pre-fires that have been created for the department. DC West thinks this will be remedied in the near future.

Tim Larue, Battalion Chief with University Place Fire Department, was interviewed using questions listed on Appendix C. BC Larue was able to provide information on his department’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.
BC Larue’s answer to question #1 described University Place Fire’s process of pre-fire planning. Shift personnel utilize satellite photos for all large, non-high risk facilities such as retail, gas stations, and restaurants. The satellite photos are then placed into the department’s pre-fire book. High risk occupancies such as schools, aged-care facilities, apartment complexes, and churches are sketched by the shift firefighters and then put into a computer program.

BC Larue’s answer to question #2 was that additional pre-fire workload is all about allocating enough time for completion. University Place Fire attempts to get its crews through new buildings before they are built so crews can examine the construction and dimensions. BC Larue stated that once the crew walks through a building, it is difficult to find time to do it again. According to BC Larue, University Place Fire Department is always playing catch up when it comes to pre-fire plans and building familiarization.

BC Larue’s answers to questions #3 and #4 were that the volunteer firefighters of his department do not participate in any of the pre-fire plans or walk-throughs. BC Larue also believed that there is really no reason for the volunteer firefighters to have such knowledge because any firefighting activity conducted by University Place volunteers is strictly exterior attacks or limited interior work teamed with career staff.

BC Larue’s answer for question #5 was that he would improve the pre-fire program by restructuring his agency’s workload. He would remove pre-fires from the Operations Division and place it into the Prevention Division. BC Larue believed that the move would save University Place Fire Department time and money because the prevention personnel are responsible for inspections. Although he agreed it was
beneficial to give personnel the opportunity to walk-through and become familiar with pre-fire plans, the money and time saved could be used on more productive training.

John Burgess, Assistant Chief of Operations with Gig Harbor Fire & Medic One, was interviewed using questions listed on Appendix C. AC Burgess was able to provide insight into his views of Gig Harbor Fire’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

To question #1, AC Burgess replied that Gig Harbor Fire engine companies complete the pre-fires in two ways. The first is a formal process where the Prevention Division creates and updates the pre-fire drawings. Those drawings are then assigned to the companies who must do a walk-through on the structure. At a future date the information is reviewed and updated.

The second is an informal process whereby the crews walk-through the commercial structures when they have some free-time. This provides an opportunity for the shift lieutenant to review operations that may be needed and locate auxiliary fire suppression equipment.

AC Burgess answered question #2 by stating that pre-fire planning was a time issue. Demands on crews have increased exponentially. Added workload, such as call volume and recruit development, have taken any extra time the shift personnel once had. If the department were to add another assignment, it would need to delete or reduce a current program.

AC Burgess answered questions #3 and #4 by stating that currently there is no pre-fire planning conducted by the Gig Harbor volunteer staff, but he would like to see
future reviews of target hazards located within their response area. This would need to be implemented into the department’s training schedule.

AC Burgess answered question #5 by stating he would improve Gig Harbor’s pre-fire program by implementing a training program for the volunteers. He would and increase the probationary requirements for second year firefighters to include walk-throughs in target hazards within the Fire District.

Penny Hulse, Division Chief of Prevention with Gig Harbor Fire & Medic One, was interviewed using questions listed on Appendix C. DC Hulse was able to provide insight into her views of Gig Harbor Fire’s pre-fire planning as well as her professional opinion on the direction Gig Harbor Fire should take.

DC Hulse answer to question #1 was that there is an ongoing list of establishments monitored by Prevention Specialist Steve Bowman monitors. As PS Bowman completes a pre-fire drawing, it is assigned to a shift lieutenant for completion. The shift lieutenant then takes the crew out to make sure the drawing and the building are identical. While conducting this walk-through, personnel observe hazards, closest water source, and any auxiliary firefighting equipment. DC Hulse stated that any discrepancies found between the building and the pre-fire drawings are returned to PS Bowman for correction.

In addition to the answer to question #1, DC Chief Hulse handed me a three ring binder containing Gig Harbor Fire’s Pre-Incident Planning goals (Appendix E) and the Fire District’s SOG for pre-fire planning (Appendix F)

DC Hulse answered question #2 by stating that the need to prioritize and use the shift time more effectively is apparent. DC Hulse believes there is adequate down time at
the shift level where a slight increase in time spent doing pre-fires would have no significant impact on current operations.

DC Hulse answered questions #3 and #4 by stating that there is no current pre-fire planning conducted at the volunteer firefighter level. This is due to a number of factors including time constraints. Volunteers are not usually available during normal business hours to conduct pre-fire walk-throughs. However, DC Hulse felt that if the shifts were to offer a schedule when pre-fires were to be done, the volunteers might make the effort to attend.

DC Hulse answered question #5 by stating that she would make major improvements to the entire program. First, DC Hulse would make it mandatory that time be set aside for engine companies to get out and complete more pre-fire walk-throughs. Second, an inclusive plan to train volunteer firefighters with career staff participation would be put together. Finally, DC Hulse believes that pre-fire planning should be reassigned to the Operations Division because she believed the current Prevention Division stamp placed on the program gives it a lesser priority.

Mike Miller, Battalion Chief with Gig Harbor Fire & Medic One, was interviewed using questions listed on Appendix C. BC Miller was able to provide insight into his views of Gig Harbor Fire’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

BC Miller answered question #1 by stating that his personnel receive a list of pre-fire plans from PS Steve Bowman. The list includes high hazards or commercial structures that have not been reviewed for a long time. The shift lieutenant meets with the building owner and locates the hazards to the building such as utilities, elevators, and
fire department connections. The walk-through includes information for an access key
box if the building does not already have one. Finally, the lieutenant conducts a brief
tactical planning session with his personnel.

BC Miller answered question #2 by pointing out that any time spent on increased
pre-fire planning will take time away from something else. BC Miller went on to list a
number of items such as training, recruit development, maintenance, and increased call
volume as the types of activity which could be affected. There would be a need to
evaluate which items had priority over the others.

BC Miller answered questions #3 and #4 by acknowledging the Gig Harbor
volunteer firefighters do not participate in any type of pre-fire planning. BC Miller did
feel that a way to improve this problem would be to provide the volunteer firefighters
with a classroom presentation two or three times a year during their normal drill night.

BC Miller answered question #5 by stating that he did not have a good answer for
how to improve our current pre-fire planning. BC Miller stated that any changes would
cause a ripple affect in shift production and may create problems in other areas of the
shift assignments.

Erik Pearson, Battalion Chief with Gig Harbor Fire & Medic One, was
interviewed using questions listed on Appendix C. BC Pearson was able to provide
insight into his views of Gig Harbor Fire’s pre-fire planning as well as his professional
opinion on the direction Gig Harbor Fire should take.

BC Pearson answered question #1 by stating that PS Steve Bowman creates the
pre-plan drawing and assigns the drawing to the station located closest to the commercial
structure. Station lieutenants then take their engine companies and confirm that the
drawing and the business are the same. The battalion chiefs are not involved in the process in any way.

BC Pearson answered question #2 by stating that the major problem involved with increasing the number of pre-fire walk-throughs is the time allocation and prioritization of other work, such as prevention and training. All tasks are a balancing act; by adding to one, the agency would have to determine which is less important.

BC Pearson answered questions #3 and #4 by stating that there is no current pre-fire training or walk-throughs for the Gig Harbor volunteer firefighters. BC Pearson felt that the issue has little importance to the department because of the limited responses as well as the lesser utilization of volunteers in a hazardous environment. BC Pearson felt that the limited time we now spend with the volunteer firefighters could be better spent training in other areas.

BC Pearson answered question #5 by stating that he thought we already had a pretty good program, but possible improvements could be made by incorporating pre-plans in our regular training and other everyday work activities.

Todd Meyer, Battalion Chief with Gig Harbor Fire & Medic One, was interviewed using questions listed on Appendix C. BC Meyer was able to provide insight into his views of Gig Harbor Fire’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

BC Meyer answered question #1 by stating that the lieutenant schedules a walk-through of target hazards and those assigned by the Prevention Division. Prevention provides the engine crews with a pre-fire plan. The engine crew then goes to the
commercial building to make sure the drawing is accurate. Drawings are updated as needed and placed in the pre-fire books and computers in the apparatus.

BC Meyer answered question #2 by stating that the problem with increasing the pre-fire walk-throughs would be the time it would take away from other duties such as training, recruit development, and other public education. BC Meyer continued to say that the increased work load would also force the crews into a tighter schedule with less down time.

BC Meyer answered question #3 and #4 by stating that Gig Harbor volunteer firefighters occasionally train at target hazards, but they are not involved in any type of formal pre-fire planning or building familiarization. BC Meyer felt that for the volunteers to be successful, they should be involved and familiar with the target hazards in their response area.

BC Meyer answered question #5 by stating that pre-fire planning needs to be more of a priority during the day time activities. Goals should be set to make a regular walk-through possible. Currently the entire program is lagging behind because antiquated computers allow limited, annual pre-fire updates.

Terry Teeple, Sr., Volunteer Battalion Chief with Gig Harbor Fire & Medic One, was interviewed using questions listed on Appendix C. VBC Teeple was able to provide insight into his views of Gig Harbor Fire’s pre-fire planning as well as his professional opinion on the direction Gig Harbor Fire should take.

VBC Teeple answered question #1 by stating that his knowledge of Gig Harbor Fires pre-planning is limited. VBC Teeple went on to say that volunteer firefighters have done pre-fire walk-throughs on target hazards such as schools, churches, and large
occupancies. These walk-throughs have included looking for standpipes, hydrants, and exits. VBC Teeple felt that the volunteer firefighters’ training is so limited that they would probably not know how to utilize the pre-fire books.

VBC Teeple answered question #2 by stating that the problem with increasing the pre-fire walk-throughs is the need to add more volunteer firefighter drill-time in the schedule. A potential remedy would be to provide pre-fire training on Saturdays or during the months with five Tuesdays.

VBC Teeple answered question #3 and #4 by stating that other than the occasional discussion about a new commercial building, Gig Harbor volunteer firefighters do not spend any time performing pre-fire planning. VBC Teeple felt that volunteer firefighters do not need nearly as detailed training as the career staff, but volunteers would benefit from a class on how to use the pre-fire plans.

VBC Teeple answered question #5 by stating more walk-throughs should be made available for volunteer personnel. The walk-throughs would most likely be conducted on Tuesday nights or Saturdays, but the added training would need to meet the volunteers’ schedules.

A survey (Appendix A) was used for all 22 Gig Harbor Fire Department lieutenants and 3 battalion chiefs. A total of 25 surveys were distributed. Of the 25 distributed surveys, all 25 were returned. Table 1 demonstrates the answers to the survey. All percentages are rounded to the nearest tenth.
Table 1
Survey results for Gig Harbor Fire Lieutenants and Battalion Chiefs

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>0</td>
<td>7 – 28%</td>
<td>5 - 20%</td>
<td>10 - 40%</td>
<td>3 – 12%</td>
</tr>
<tr>
<td>#2</td>
<td>3 - 12%</td>
<td>15 - 60%</td>
<td>2 - 8%</td>
<td>5 - 20%</td>
<td>0</td>
</tr>
<tr>
<td>#3</td>
<td>2 - 8%</td>
<td>12 – 48%</td>
<td>3 - 12%</td>
<td>8 - 32%</td>
<td>0</td>
</tr>
<tr>
<td>#4</td>
<td>2 - 8%</td>
<td>10 - 40%</td>
<td>3 - 12%</td>
<td>8 - 32%</td>
<td>2 - 8%</td>
</tr>
<tr>
<td>#5</td>
<td>2 - 8%</td>
<td>6 – 24%</td>
<td>2 - 8%</td>
<td>10 - 40%</td>
<td>5 - 20%</td>
</tr>
<tr>
<td>#6</td>
<td>0</td>
<td>5 - 20%</td>
<td>2 - 8%</td>
<td>13 - 52%</td>
<td>5 - 20%</td>
</tr>
<tr>
<td>#7</td>
<td>5 - 20%</td>
<td>5 - 20%</td>
<td>10 - 40%</td>
<td>5 - 20%</td>
<td>0</td>
</tr>
<tr>
<td>#8</td>
<td>0</td>
<td>0</td>
<td>2 – 8%</td>
<td>18 – 72%</td>
<td>5 - 20%</td>
</tr>
<tr>
<td>Total</td>
<td>14 - 7%</td>
<td>60 - 30%</td>
<td>29 - 14.5%</td>
<td>77 – 38.5%</td>
<td>20 - 10%</td>
</tr>
</tbody>
</table>

Question #1 of the survey was to determine if the line officers believed the current pre-fire planning of commercial buildings was adequate for the departments needs. Of the respondents, 52% indicated the needs were being met, while 28% did not; 20% of the respondents were undecided.

Question #2 of the survey asked if the line officers felt pre-fire planning was the job of the Prevention Division. Of the respondents, 72% answered it was not the job of the Prevention Division, while 20% indicated it was; 8% were undecided.

Question #3 of the survey asked if pre-fire planning created a workload that negatively affected their other tasks. Of the respondents, 56% indicated it did not negatively impact their job, while 32% indicated that it did; 12% were undecided.

Question #4 of the survey asked if volunteer firefighters should be trained for pre-fire planning. Of the respondents, 40% indicated that volunteers should be trained in
pre-fire planning, while 48% indicated volunteers should not be trained; 12% were undecided.

Question #5 of the survey asked if career and volunteer firefighters should have equivalent pre-fire training. While 8% were undecided, 60% of the respondents indicated career and volunteers should have equivalent training.

Question #6 of the survey asked the importance of line staff buy-in for any changes in the current pre-fire planning. While 72% indicated there needed to be buy-in by the line staff, 20% indicated there did not need to be any buy-in; and 8% were undecided.

Question #7 of the survey asked if Gig Harbor Fire was united in pre-fire planning programs. Of the respondents, 40% indicated the department was not united in pre-fire programs while 20% indicated the agency was united; and 40% were undecided.

Question #8 of the survey asked if Gig Harbor Fire needs to increase the number of pre-fire planning walk-throughs. While 8% were undecided, 92% of the respondents indicated there was a need to increase the number of pre-fire walk-throughs.

DISCUSSION

The interview with Jeff Zechlin potentially contained the most important key to solving the research problem. The WSRB documentation states that for an agency to receive maximum credit for its rating, it must provide an annual inspection of each commercial building (WSRB, 2007). Mr. Zechlin’s indication that a simple, annual review of the pre-plans, and a walk-through of the structure at least once every three to five years would meet the requirements. Mr. Zechlin’s explanation provides a clearer understanding of the changes needing to be conducted by Gig Harbor Fire.
Interviews of all four combination agencies were remarkably similar in content and findings as were the interviews with the three fire marshals. The results also confirm that there are parallel findings within the materials stated in the literature review.

All interviewees from the combination fire departments acknowledged, to varying degrees, that their agencies require their engine companies to participate in pre-fire walk-throughs. All three of the fire marshals and the representatives of the fire districts stated that it was important for firefighters to receive the opportunity to familiarize themselves with their response area’s commercial structures. This coincides with the views presented in Firefighting Principles and Practices (Clark, 1991) which makes a clear correlation to the importance of pre-fire planning and fire departments becoming acquainted with the potentials created by fire. While fighting the fire, the departments gain the advantage as long as they have identified potential problems and addressed those problems.

Of the Gig Harbor line officers returning the survey, 52% indicated the current pre-fire program was adequate to meet the department’s needs. Coupled with this inquiry was the survey question asking if pre-fire planning was the job of the Prevention Division. While the task currently falls on the Prevention Division, 72% of the respondents indicated pre-fires do not belong with that particular division.

All fire agency interviewees and two of the three fire marshals believed that the biggest downside to increasing pre-fire walk-throughs is the time element. The increased time spent by firefighters familiarizing themselves in a building would take away from some other daily task. The additional workload affecting other tasks is confirmed by Ronny Coleman when he points out that the training and logistics involved with the
addition of peripheral work, such as emergency medical services, may be consuming time that would otherwise be spent on company inspections (Coleman, 2006).

Fire Marshal Bill Steele held the only differing opinion when it came to problems being created by a workload increase. FM Steele stated that the only problem he thought would happen is the increased likelihood of engine companies mishandling hazards that are potentially criminal in nature.

Of the Gig Harbor line officers completing the survey, 92% felt there was a need to increase the number of pre-fire walk-throughs; 32% of those responding indicated a workload increase would cause a negative effect on other tasks.

All fire agency interviewees utilizing volunteer firefighters in combat, all 3 fire marshals, and Mr. Zechlin felt that volunteers should have some level of pre-fire training although the level of that training varied. Two of those interviewed, AC Wright and BC Larue, believed volunteers did not need to be knowledgeable of pre-fire plans. The other ten of those interviewed felt that training, ranging from a simple review of the pre-fire to equivalent training of career personnel, was necessary. Equivalent training is supported in the report Leading the Transition in Volunteer and Combination Fire Departments (VCOS, 2005) where the path to maintaining a successful combination fire department is to fully integrate the volunteer and career firefighters at the tactical level. Attaining this goal would require formal training and education to a specified performance level for all personnel, from firefighter through senior fire officer.

Of the Gig Harbor line officers completing the survey, 60% agreed volunteers should receive training equal to their career counterparts. This is compared to the 32% who believed volunteers should not receive equivalent pre-fire training.
There was a wide array of answers when it came to how interviewees would improve their pre-fire planning. Two of those interviewed, DC Penny Hulse and BC Tim Larue, wanted to move programs to different divisions within their agencies. Two others, DC Chuck West and AC Keith Wright, cited the addition of updated as a necessary improvement. Finally, BC Todd Meyer stated that Gig Harbor Fire needs to realize pre-fire training has priority over other tasks.

The ways to improve closely parallels the dilemma facing Southwest Airlines. In The Southwest Airlines Way (Gittell, 2003), the problem is an organization’s most critical work processes tend to span multiple functional or departmental boundaries, and the outcome of those work processes depend not on any one function but on actions taken by people in each of those functions.

The survey indicated only 20% of the Gig Harbor line officers believed the agency is united in its pre-fire program while 40% felt that Gig Harbor Fire is not united. Coupled with this survey question, 72% of the respondents acknowledged that buy-in by the line staff is an important aspect when considering changes to the pre-fire program.

RECOMMENDATIONS

The research demonstrates there are a number of benefits that could be achieved by improving the pre-fire training and increasing the number of commercial building walkthroughs performed by Gig Harbor Fire & Medic One. Those benefits would include enhanced safety, receiving the maximum points allowable for the pre-fire training category for the WSRB, and improved efficiency in response.

Recommendations A, B, C, and D will be presented in writing to Assistant Chief of Technical Services Eric Watson and Assistant Chief of Operations John Burgess.
during the first week of May 2008. The request will be made by the author to place the following recommendations on the agenda for the June 11, 2008 Operations meeting. During this meeting the Battalion Chiefs may provide input into the feasibility of implementation.

A) Coordinate with the Shift Lieutenants to design a regularly scheduled pre-plan review process. This would include a review of the pre-fire plans with discussion on response routes, auxiliary appliances, and hazard locations. This training could be as formal as time set aside for classroom work or as informal as sitting around the dinner table discussing the buildings. All training, regardless of the venue, must be documented on a Training Report.

B) Meet with the Prevention Division to design a program allowing the engine companies to conduct a pre-fire planning walk-through of the assigned station’s commercial buildings at least once every 4 years. This will meet the WSRB requirements and establish a manageable timeframe. Once again, all walk-throughs must be documented on a Training Report.

C) The Training Division will coordinate with the Prevention Division and the Pierce County Fire Marshal to design a program to provide second year firefighters with education allowing them to conduct efficient and effective walk-throughs including the search for potentially serious hazards.

D) A request to the Chief of Technical Service for an update to SOG Section 2170 to include all recommendations.

Finally recommendation E will be implemented by the author. As the Training Officer, it is my responsibility to schedule and provide training for the volunteer
firefighters. Effective with the 2009 Training Schedule, and in place of training with less of a priority, volunteer firefighters will receive a class on pre-fire planning and twice a year they will be scheduled to conduct a building walk-through.
References


Coleman, Ronny J. (2002, February) Have you found a conflict free combination? *Fire Chief* 24, 26


United States Fire Administration (2003) *Executive fire officer program operational policies and procedures applied research guidelines*. Emmitsburg, MD: Author

Volunteer & Combination Officers Section (2005) *Leading the transition in volunteer and combination fire departments* (pp. 14) Fairfax, VA

Appendix A

FIRE SERVICE SURVEY

The following survey is a component of an applied research project being conducted for the National Fire Academy. While your responses will be anonymous, they will play an important part in meeting the goals of the United States Fire Administration.

1. *The pre-fire planning currently conducted is adequate for our agency’s needs.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

2. *Pre-fire planning is the job of the Prevention Division.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

3. *Pre-fire planning causes a workload increase that negatively affects other tasks.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

4. *Volunteer Firefighters should be trained for pre-fire planning.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

5. *Volunteer & Career firefighters should have equivalent pre-fire training.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

6. *Line staff buy-in is important to improving any changes to pre-fire planning.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

7. *Gig Harbor Fire is united in pre-fire planning programs.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree

8. *Gig Harbor Fire needs to increase the number of walk-throughs in pre-planning.*

   - □ Strongly Disagree
   - □ Disagree
   - □ Undecided
   - □ Agree
   - □ Strongly Agree
Appendix B

FIRE MARSHAL INTERVIEW QUESTIONNAIRE

The following questionnaire is a component of an applied research project being conducted for the National Fire Academy. Unless given permission to utilize your name, all responses will be anonymous. Your answers will play an important part in meeting the goals of the United States Fire Administration.

1) In your opinion, what is the scope of pre-fire planning that can be conducted by Gig Harbor Fire & Medic One?

2) What potential issues are created by increasing the number of commercial building walk-throughs?

3) In your professional opinion, to what degree should volunteer firefighters be involved with building familiarization?

4) To what degree should Gig Harbor conduct pre-fire planning?
Appendix C

FIRE SERVICE INTERVIEW QUESTIONNAIRE

The following questionnaire is a component of an applied research project being conducted for the National Fire Academy. Unless given permission to utilize your name, all responses will be anonymous. Your answers will play an important part in meeting the goals of the United States Fire Administration.

1) Please describe how your engine companies perform pre-fire commercial familiarization.

2) What potential issues are created by increasing the number of commercial building walk-throughs?

3) What role do your volunteer firefighters play in pre-fire planning?

4) In your professional opinion, if your agency does not utilize volunteer firefighters in pre-fire planning, what level should they be involved with building familiarization?

5) If possible, what steps would you take to improve your current pre-fire commercial familiarization?
December 14th 2007,

Dear Gig Harbor Firefighter,

As a student attending the National Fire Academy Executive Fire Officer Program, I am currently conducting research and completing a paper that pertains to Community Risk Reduction.

I am conducting research to determine if there is a need to increase and/or improve our current pre-fire walk-through program as per the Washington State Rating Bureau.

The results of this survey will be used in determining the need to implement any improvements in our current pre-fire program.

The results of this applied research project will be made available to other members of the fire service in the Learning Resource Center located at the National Fire Academy. While your responses will remain anonymous, the finished product will also be placed in the Gig Harbor Fire Department library where the overall summary findings can be found.

Thank you in advance for taking the time to complete the survey. Please return by inter-office mail as soon as possible but no later than February 1, 2008.

Tracy B. Lyon
Division Chief of Training
Gig Harbor Fire & Medic One
tlyon@piercefire.org
Appendix E

GIG HARBOR FIRE & MEDIC ONE
PRE-FIRE INCIDENT PLANNING

**Purpose:** Pre-incident planning has been documented as an effective way to save lives and preserve property by knowing in advance what potential problems may occur and being prepared to take action to mitigate the potential loss.

**Goals:**

- To ensure the highest level of safety possible for our response personnel during emergency response by facilitating occupancy familiarization tours.
- To provide an opportunity for response crews to make diagrams of commercial occupancies to be used during field operations.

While fire crews have been conducting “Walk-Through” evaluations for many years, this program is designed to provide a manageable means of producing current and accessible pre-incident plans during the “walk-through” process.

Firefighters and Paramedics conduct the pre-incident survey by going through the building and by making a draft diagram of the interior of the building and the layout of the fire department access points and hydrant/PIV/FDC locations at the site. In addition, fire protection equipment and all hazards are noted on the plan to provide response information enroute.

Plans are then drawn electronically by the Prevention Staff and returned to the response crews for review and distribution to designated apparatus. The electronic version is now available in some of the response apparatus. This process is evolving and may change as we use it and learn more about what works for us during emergency operations.

A by-product of occupancy familiarization tours, or “walk-throughs”, is firefighter familiarization with code requirements for fire and life safety. This is also enhanced by annual prevention presentations to the crews.

The information gained through visits to the occupancies can be used to assist managers and building owners in their efforts to prepare and practice emergency plans for their facilities.
SECTION 2170

Pre-Emergency Plans

Pre-emergency plans are created and updated to give responding personnel advance knowledge about the emergency scene. The use of pre-emergency plans increases firefighter safety and enhances their effectiveness in dealing with specific occupancy hazards.

1. PRE-EMERGENCY PLANNING ACCOUNTABILITY

The Assistant Chief of Support Services is accountable for the pre-plan process. Production of the pre-plans must have a high priority and must be continuous, considering the rapid growth rate within the boundaries of Fire District No. 5.

2. PRE-FIRE EMERGENCY PLANNING PRODUCTION

a. Pre-emergency plans should be made under the following priorities

   (1) New construction and remodels in process.

   (2) Existing buildings without preplans.

   (3) Buildings with occupancy changes.

   (4) Review and update of existing preplans as needed, but not less than once every two years.

b. Preplans will be made by all shifts as assigned. Field data will be transferred to appropriate format using the current computer program.

c. Pre-emergency plans will be updated in the following ways:

   1. The Prevention Officer will compare occupancy information with the City and County Business License information.

   2. Self-evaluation forms may be used to target specific occupancies for update information when needed.

   3. Shift personnel will verify current information when performing walk through drills.

   4. Changes in existing buildings will be identified through our current plan review process and forwarded to shift personnel for verification.
5. New construction will be reviewed by all shifts for familiarization and floor plan review.

d. New and revised plans shall be forwarded to each shift via interdepartmental mail. Battalion Chiefs shall assign a shift representative to receive, review and to place new and revised plans in the appropriate apparatus.

3. PRE-EMERGENCY PLAN USE AND DISTRIBUTION

a. Apparatus in outlying stations will have preplans for buildings where that engine would be one of the first-three called. This will be determined by looking at the run cards for the occupancy, the referencing the assignment for the residential alarm. The three stations listed under the residential alarm will receive preplans.

b. If E511 is called as a backup to an incident in an outlying area, then the driver should check to see if a preplan is available for the involved building. Response should not be delayed, but review of the preplan while enroute, by someone other than the driver, will be particularly valuable when E511 arrives on scene.

4. PRE-EMERGENCY PLANNING REFERRALS

a. During the course of the occupancy walk-through drill, personnel may note unsafe or hazardous situations. These conditions should be referred to the Prevention Division via the Pre-Incident Survey Referral Form

b. The Prevention Officer shall forward the information to the appropriate enforcing agency.

Revised: May 10, 2000