Could suppression personnel perform fire inspections in the Sterling Heights Fire Department?

Christopher T. Martin

Sterling Heights Fire Department, Sterling Heights, Michigan

Certification Statement

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

Signed: 

Abstract

The problem was that a needs assessment to identify changes required to institute a fire company inspection program in the Sterling Heights Fire Department (SHFD) had not been conducted. Due to budget cuts and position eliminations in the Fire Prevention Division of the SHFD, a majority of the buildings in the city were not getting inspected. The city would like to see this function be handled by fire companies in the future. The purpose of this research was to identify the issues needed to conduct a needs assessment for the institution of a fire company inspection program in the SHFD. Descriptive research was used to identify key issues that would need to be addressed should SHFD choose to use extinguishment personnel to perform fire inspections, by answering the following questions: (1) what are the legal considerations involved with performing fire inspections; (2) what are the potential liabilities to this type of system; (3) what training and certifications should fire personnel have in order to perform fire inspections; (4) what impact would performing fire inspections have on the work load of the extinguishment division; (5) what Standard Operating Guidelines (SOG's) would need to be changed with the implementation of such a program? The procedures used for this research was a review of standards, laws, codes, and other legal documents, as well as the study of the workload and SOG's of the SHFD and the practices and findings of similar organizations. The results revealed that there were no legal restrictions that were unique to company inspections and that sufficient training and solid guidelines would be needed to reduce liability and provide a good service. However, the workload could be problematic, and would need further review. The recommendation was to develop a committee to further research the exact parameters of the issue and how it would best be instituted in this organization.

Could suppression personnel perform fire inspections in the Sterling Heights Fire Department?

Introduction

The Sterling Heights Fire Department (SHFD) provides an all hazards response to various emergencies throughout the City of Sterling Heights. Like many municipalities across the nation, the economic downturn over the last few years has taken its toll on tax revenues for the city, mainly due to the decrease in property values. This in turn has caused several restructuring changes within the Sterling Heights Fire Department that has and will continue to have many affects. One affect in particular is the impact to the Fire Prevention Division, which was once well staffed and functioning in a preventive, progressive manner. Today, the division functions in a reactionary mode and struggles to keep its head above water.

At its peak, the division was staffed with a Fire Marshall and six Fire Inspectors. In September 2011, the division fell to its current staffing level of a Fire Marshall and one Fire Inspector. The division is falling behind schedule in every category and something has to give. The possible changes range from an entire privatization of the division, to adding needed manpower back to the division that would allow them to once again be efficient and effective. The current budget crisis makes the latter choice unrealistic, and privatization has a different set of problems all together. The probable solution lies somewhere in between these two choices, and one option would be to provide inspections using fire companies from the Extinguishment Division.

The problem is that a needs assessment to identify changes required to institute a fire company inspection program in the SHFD has not been conducted. While many fire departments have similarities, most are also unique in the service they provide, how often they provide them, and the organizational cultures that drive their daily activities.

The purpose of this research was to identify the issues needed to conduct a needs assessment for the institution of a fire company inspection program in the SHFD. Descriptive research was used to identify key issues that would need to be addressed should SHFD choose to use extinguishment personnel to perform fire inspections. The following questions will be answered in this research. What are the legal considerations involved with performing fire inspections? What are the potential liabilities to this type of system? What training and certifications should fire personnel have in order to perform fire inspections? What impact would performing fire inspections have on the work load of the extinguishment division? What Standard Operating Guidelines (SOG's) would need to be changed with the implementation of such a program?

Background and Significance

The City of Sterling Heights, Michigan is located six miles north of the City of Detroit. Geographically, the city covers 36.51 square miles, making it the third largest city in Michigan. The 2010 population of 129,699 makes Sterling Heights the fourth largest city in Michigan in regards to population. The city has 52,190 housing units with a median age of 40.4. There are 10,508 business firms identified by the Census Bureau in Sterling Heights (United States Census Bureau, n.d., table 1).

The city also has a large industrial corridor running through its center, serviced by a rail system. This industrial corridor contains four large automotive plants, two Chrysler, and two Ford Motor Company, as well as General Dynamics, the maker of many types of weaponized vehicles for the military. Many other smaller industrial facilities exist within the corridor, supplying the automotive industry. As of June, 2012 there are 3,916 inspectable properties on record with the Fire Prevention Division.

SHFD has seen many changes since its founding in 1962. There were 108 sworn personnel in the department in 2001, which was the highest level. There were 96 personnel in the Extinguishment Division, three in the Training Division, seven in the Prevention Division, and two in the Administration Division.

As of July 1, 2012 after several retirements and eight layoffs, which were the first ever in the history of the SHFD, the department had 84 sworn personnel. There were 77 personnel assigned to the Extinguishment Division, three in the Training Division, two in the Prevention Division and two in the Administration Division.

During the 17 years prior to July 1, 2012 SHFD operated out of five fire stations, each with a Paramedic Engine Company staffed with a minimum of four personnel, a Heavy Rescue and Truck Company each staffed with a minimum of two personnel, and a Battalion Chief. This required a daily minimum of 25, with overtime being used anytime staffing fell below that level.

Currently, SHFD operates the five stations with three personnel on each Paramedic Engine, a Battalion Chief, and dynamic staffing of the Heavy Rescue and Truck, depending on the staffing level. Overtime is not used until the shift staffing falls below 18. This system is very new, and the 18 staffing level may also prove to be dynamic. The city's four year plan calls for further reductions in the fire department, with deep cuts being predicted without a successful public safety mileage.

Like many departments, the first division to be cut when budgets become constrained is the Prevention Division. SHFD was no different. The division grew to have a Fire Marshall and four Fire Inspectors by 1985. As the city continued to grow, so did the Prevention Division, when by 1993 there were six Fire Inspectors. The division remained staffed with a total of seven until 2008 when, for the first time in SHFD history, a Fire Inspector was removed from the

budget. There was another Fire Inspector removed from the budget in 2009, and two more in 2011 leaving a division of two with more duties than was previously handled by seven. This can certainly be considered a recipe for failure.

Table I shows how the number of inspections has changed since being tracked in the proprietary computer based system that is used to track inspection information. As of July 1, 2012, the only inspections that were performed were permit driven, and no self inspections have been prompted by the division.

Table I

Year	General Inspections	Self Inspections	Liquor License Inspections
2007	940	70	76
2008	873	158	78
2009	909	173	79
2010	482	97	75
2011	170	1	63

Diamantes (2007), identifies two different models that departments use to decide how buildings are selected to receive fire inspections. The permit model requires potentially high hazard occupancies to apply for a permit each year in order to stay in business. This permit then drives the need for a fire inspection to occur in order for approval. The inspection model leaves the decision to the prevention professionals to determine which occupancies get inspected, and how often (p. 22-23).

Using those model descriptions from Diamantes (2007), SHFD was previously a mix of the two. There are designated occupancies that are required to obtain a permit to continue operations year after year, mainly those businesses that serve alcohol or have assemblies for some type of entertainment. In addition to those permit driven inspections, the SHFD Prevention Division would previously perform routine fire inspections of hundreds of businesses each year.

However, it is now safe to say that the SHFD Prevention Division is now operating on a permit basis only, not having resources to perform general fire inspections.

Liquor license driven inspections have always been the priority of the Prevention Division at the beginning of each year. The number of liquor license inspections has ranged each year from 63 to 79 (Table I). Generally these inspections have been completed by March of each year, freeing up personnel to concentrate on general inspections. Due to the reduction of personnel, as of July, 2012 the Prevention Division was still working on completing the liquor license inspections.

Added to the problem was the fact that on January 1 2012, Michigan Governor Rick Snyder signed a new fireworks law. This law made legal the selling of consumers' grade fireworks, and significantly reduced the authority of local municipalities to restrict locations that could sell fireworks. Sterling Heights soon was inundated with several proprietors looking to open up a location to sell fireworks. These individuals jumped to the front of the priority list for the Fire Prevention Division, who had to drop all they were doing to inspect and re-inspect these locations. This was because there had been several cases of legal action taken against municipalities who did not comply with the State law, and SHFD did not want that headache.

Smith (2012) points out that fire inspections are the backbone to enforcement in any fire service, and that maintenance inspections of sprinkler systems and all types of detection systems are important duties. Like many fire departments, SHFD no longer places emphasis on these areas, but focuses on responding to emergencies. Public education is also a thing of the past as most of these activities have had their funding removed. The only real education that SHFD provides is the Juvenile Fire Starter program that targets high risk individuals (para. 4).

In 2006, Chief John Childs recognized the impact of the increased work load to the Prevention Division caused by the increase in occupancies needing inspection. He instituted a self inspection program (Appendix I) to allow for certain businesses to acknowledge that they comply with the codes without needing an actual walk through inspection. This program was designed to increase yearly inspections by 720 annually. As you can see by Table I, the actual numbers fell far short of the goals. According to the Fire Marshal, that was because the Fire Prevention Division never embraced the concept (Michael Bauss, personal communications, June 6, 2012).

It has been a written policy of the SHFD to provide for an inspection in all of the cities occupancies, with the exception residential. This is written in the SOG titled *Violation Compliance & Ticket Issuance* (Appendix II). Ironically, that same guideline is contradicted in the SOG titled *Fire Inspection Frequency & Risk Assessment* (Appendix III). This SOG was written to define in writing a system that was developed to determine the frequency of inspections in each occupancy, based on a checklist.

It should have been clear that SHFD could not inspect each occupancy annually, and it should have concentrated on higher risk occupancies as a priority. In 2007 the Prevention Division performed 940 general inspections (Table I), which was the highest year on record. This only represented 26% of the 3,547 inspectable occupancies identified that year (Appendix III). Although this risk assessment plan was very comprehensive, it was never implemented for unknown reasons. Mostly likely because of the organizational culture in the Prevention Division at that time (Michael Bauss, personal communications, August 3, 2012).

Many changes are needed if the SHFD desires to be a productive, proactive fire department. This issue is directly related to the content of the National Fire Academy's

Executive Fire Officer Program curriculum for Executive Analysis of Community Risk Reduction. More specifically, it is related to Unit Two, Assessing Community Risk and Unit Four, Leading Organizational and Community Change (NFA, p 2-3, 2-50)

Goal 1 of the United States Fire Administration's current strategic plan is to "Reduce risk at the local level through prevention and mitigation" (USFA 2010, p. 14). This goal is directly related to the problem SHFD is having in their inability to perform basic fire prevention activities such as inspecting occupancies and ensuring life safety code compliance.

Literature Review

Any well organized fire prevention program, regardless of who performs the tasks, addresses all of the issues which this research sought to determine. Therefore, the main focus on the literature review was on how other agencies handled these issues. Other literature was also reviewed to grasp knowledge on the impact of various types of code enforcement programs, and specifically the potential problems with these programs.

There are several staffing options for municipalities that are in use across the country. Many involve the use of suppression personnel either exclusively as in Seattle, Washington, or in conjunction with non-suppression personnel as in Portland, Oregon, or completely without the use of suppression personnel, which is rather common. There is also a mix of professional full time, part paid and even volunteer employees. It comes down to the needs within a specific community, and the options available to them (Crawford, 2002, p. 106-107).

For those fire departments that utilize suppression personnel in code enforcement, some have been more successful than others in their efforts and can be used as a great example. The problems encountered by other departments can also prove to be very helpful to any organization contemplating such a change. Budget restrictions have forced the decision on how to provide this

service on many departments, and many have found ways to deal with it in an efficient and effective manner, which is ultimately the goal.

Bradley (2003) found that despite the fact that fire suppression personnel were not as well trained in conducting fire inspections as a certified fire inspector would be, the Washington Township Fire Department, Indiana, realized a downward trend in code violations over a four year period. The less trained suppression personnel missed only ten percent of the violations in buildings that were then re-inspected by a certified fire inspector (pg. 17).

In his analysis of the fire inspection program in the Chambersburg Fire Department, Pennsylvania, Vanlandingham (2006) found that a successful program should be well managed and planned, with realistic objectives and timelines. This would ensure that the goals are met, while at the same time, the workforce does not become overwhelmed resulting in quality issues (p. 14).

Buy-in from suppression personnel is certainly an important issue. Without their support, there is little reason to believe that a company inspection program can be effective. Gillette (2001) conducted research in regards to the feelings of the suppression personnel in departments that had a company inspection program. He found that many felt it was not their job, it was not meaningful work, and they were not properly trained to perform these tasks (p. 24).

An increased workload that would come with a company inspection program can also create acceptance problems among the work force. Walz (2011) contends that the lack of acceptance can possibly lead to efforts of sabotage in hopes of making the system fail so that it can go away (p. 17).

Quality of inspections is also a concern when the workload is overwhelming. As Bradley (2003) points out, three things can happen when the workload becomes strained. Fire companies

can run out of time to complete inspections, intentionally not complete them, or simply do a poor job due in an attempt to do them quickly. All three of these lead to an overall lack of compliance in fire safety issues, and an unsafe atmosphere. The lack of quality inspections can also lead to liability issues (p. 13).

There are many who will argue that the use of suppression personnel to perform fire inspections is not a good idea for several reasons. Jim Crawford (2011) calls himself a proponent of an integrated system that uses suppression personnel for code enforcement, with restrictions. He argues that this type of system needs to be thoroughly thought out and properly planned. Significant consideration to the workload of suppression personnel needs to be considered as inspections will compete with incident response and required training (p. 66-67).

Gray (2011) specifically warns against using suppression companies to perform fire inspections for several reasons that open fire departments up to liability. He notes that simple "walk-thorough" fire inspections that many fire companies would perform are no match for the inspection that would be performed by a highly trained, professional inspector. Also, the follow thorough and re-inspections become complicated with the twenty-four hour shift schedule of suppression personnel (para. 1,4).

The *Fire Inspection and Code Enforcement* manual points out that, from a liability standpoint, it is better to perform less total inspections, yet perform them more thoroughly, following through on all violations as opposed to simply trying to do more inspections (IFSTA, 2009, p. 9). Bradley (2003) concluded that an increased workload can lead to a lack of follow-up on violations which can also lead to severe liability issues. Bradley (2003) is one of many who point out that the emphasis should be on quality of inspections and not quantity (pg. 15-16).

The lack of quality and/or follow-up has been cited on more than one occasion in tragic fires as contributing factors. There have been some highly publicized incidents where the actions of fire inspectors have been brought under close scrutiny, resulting in different decisions. Arguably one of the most well known cases resulted from the Station Night Club Fire in West Warwick, Rhode Island on February 20, 2003. The flame spread and generation of toxic smoke was the result of foam that was attached to the walls to improve sound. This foam was clearly not code compliant, yet it went undetected by the fire inspector who performed a series of inspections of the premises, with the last as recent as two months prior.

Many felt that the fire inspector should have been charged with a crime for his actions, specifically for his inability to cite the foam violation. However, the Grand Jury and Attorney General failed to bring charges against him, citing he had not acted in bad faith or with malice in his actions. 100 people died in that devastating fire (Breton, 2007, para. 3).

Another important case revolving around liability of fire inspectors resulted from the January 13, 1970 fire at the Gold Rush Hotel in Anchorage, Alaska. Five people died and others were injured as a result of that fire. Key circumstances were blamed for the deaths, including the fact that the fire alarm system did not work. Ironically, that hotel had been inspected on previous occasions and along with several other violations found, the alarm system was known to be non-functioning. The fire inspector notified the owner of the hotel of the violations, but also informed him that he would receive a written explanation of the violations as well as an explanation of how to remedy the situation. No further action was taken by the inspector with the exception of discussing the situation with other inspectors. No notice was ever given to the owner.

In defense of the inspectors in this case, the state argued that the inspectors owed no special duty to those who were killed or injured. However, the State Supreme Court found that,

while the decision to inspect the hotel was a discretionary action, thus holding no liability, the fact that it was inspected and serious violations found gave cause to the State to act. The fact that they did not act opened the inspectors up to liability and they indeed had a special duty to protect the occupants of the hotel (findlaw.com, para. 44).

Liability rarely is a cut and dry issue. Generally, fire departments are governmental agencies, and as such, many feel that they are immune to most liabilities issues. This is not always the case, and it is important to understand when and why this is different. Sovereign Immunity is a judicial doctrine that prevents government agencies from being sued without its consent. As Varone (2012) depicts it, sovereign immunity is the belief that "the king can do no wrong" (p. 284).

This may no longer be the case as governmental immunity has been eroded by several Supreme Court cases. Lee (1987) points to three specific Supreme Court cases that started this change. Monroe v. Pape (1961), Owen v. City of Independence (1980) and Maine v. Thiboutot (1980). While these cases had no specific relation to fire inspections, they are thought to have started a trend that has reduced immunity of local governments little by little. In today's litigious society, certainly anything is possible (p. 160).

One important distinction to sovereign immunity is whether the function is considered governmental or proprietary. A governmental function is considered an action undertaken for the common good. On the other hand, a proprietary function is like an action taken by a private corporation for profit. Generally speaking, governmental actions are without liability, whereas proprietary actions can easily come with liability (Anthony & McMahon, 2000, p. 10).

When determining possible liability, one important point to consider, as Varone (2012) points out, is whether the action was a discretionary act or a functionary act. A discretionary act

is one that requires a decision to be made by an employee, where as a functionary act is the act of carrying out an established policy. Discretionary acts generally are immune from liability unless the decision made can be proven to grossly negligent, and one that would not be considered normal under the same set of circumstances. In the fire service, this is important because fire officers need to make split second decisions with limited information. However, fire inspections generally follow established policies and would be considered functionary acts and not immune from liability on that principle (pg. 292).

Another point to consider in regards to government liability is the difference between the public duty doctrine and special duty. Public duty doctrine holds that a governmental agency can not be held liable for an individual plaintiff's injury because the duty of the public official is owed to the general public and not any individual (Lawyers.com, 2001, para. 2).

Standard Operating Guidelines (SOG's) or Standard Operating Procedures (SOP's) are very important to every component of what fire departments do. There has been much written in the past several years about the difference between the two, which is better, and does one form over the other provide differing levels of liability. Some feel that calling it a procedure as opposed to a guideline leaves little flexibility and makes one negligent for not following word by word something called a procedure. Varone (2012) contends that it does not matter what they are called, they should be specific towards what level of flexibility they have (p 280-281).

Regardless of what your agency calls them, SOP's or SOG's, they are needed especially in the area of fire inspections. Ample training should also be provided so that everyone is on board with what is expected. Furthermore, these guidelines should be reviewed yearly in order to ensure that they are up to date. This can reduce the level of liability that an organization can be exposed to (Clymer, 2000, p. 48).

FEMA (1999) offers vast knowledge for the need for and development of SOG's. They define them as "an organizational directive that establishes a standard course of action" (p. 3). Furthermore, they are described as not being step by step instructions for performing a task, rather the rules for doing so.

To summarize, the Literature Review provided the researcher with a significant amount of information from several sources. This information was very useful in progressing through this research project, and furthermore it gave the researcher vast prospective of the problem, as well as the solutions. This will certainly play a large role towards the institution of this system with the organization, if that is the route that is decided upon.

Procedures

Procedures for this research began with the study of laws, case studies, standards, and codes to answer the first two research questions. These consisted of, but were not limited to;

- State of Michigan Fire Prevention Code
- International Fire Code (2009)
- City of Sterling Heights Fire Prevention Code
- Supreme Court decisions

To determine the required or suggested training and certification level needed for personnel to perform fire inspections, a review of standards, laws and writings and opinions of others was performed. These included;

- NFPA Standards
- MIOSHA laws
- Interviews with other Executive Fire Officer Students and personnel from similar fire departments.

- The review of Executive Fire Officer Applied Research Projects

In order to determine the potential effects of the increased workload, several aspects had to be evaluated. A comprehensive study of all incidents occurring in calendar year 2011 for the entire fire department was conducted to determine how much time was spent on average preparing for and responding to incidents. Other requirements of the Extinguishment Division were also researched to provide insight into the current work load of the department. Next, an assessment of the total occupancies within the city, and the average time spent on inspections for those occupancies was conducted, followed by discussions with the Fire Marshal, Fire Inspector, and staff to determine expectations that would be placed on the suppression personnel in regards to which occupancies the extinguishment division would inspect and in what frequency. Interviews with other EFO students and the study of EFO papers were also useful in determining this component. Finally, the researcher performed a review of the 334 SOG's currently in effect in the Sterling Heights Fire Department to identify which ones would need to be addressed with a change in the model for providing fire inspections.

Limitations to this research are mainly in the area of the workload. While there are some trends to the run load every department faces, when incidents occur is largely variable. Using 2011 data is also problematic in that SHFD recently has seen a significant reduction in Extinguishment staff levels. There simply was not enough time under the new system to use any of that data to determine what effect the reduction would have on the workload, but certainly reducing the staff on every Engine Company by 25% will increase the workload for the remaining crew. The work still needs to get done.

Further limitations in the workload calculation can also be expected in that the run load has historically increased every year at an average of 5%. Any analysis would certainly be

outdated only a few years later if the trend continues. Also, the average times used to conduct fire inspections was an average of inspections performed by one Inspector, with experience. Certainly there will be variables in the inspection times when conducted by Engine Companies. They may be performed faster because of more people, or slower because of less experience.

Results

What are the legal considerations involved with performing fire inspections?

The State of Michigan Fire Prevention Code, known as Public Act 207 of 1941 gives control of all fire inspection and investigation activity to the State Bureau of Fire Services (BFS). Section 29.2 allows this authority to be delegated to the Fire Chief or other municipal leaders of any organized fire department. Furthermore, Section 29.8 allows for the municipal official that has that authority, or their delegate, to perform fire inspections of any occupancy within their jurisdiction. These inspections can be driven either by a complaint of a "person having interest" or at the discretion of the authority having jurisdiction (Michigan Fire Prevention Code, 2012). The City of Sterling Heights has adopted the International Fire Code, 2009 edition. This is known as *Fire Prevention and Protection,* Chapter 20 in the city ordinances. Section 104.2 of this code also adds the 28 SHFD Fire Prevention Regulations contained in the SOG's as part of the fire code (City of Sterling Heights website, 2012).

While both the state and city codes give the legal right and authority to perform fire inspections to the municipality, there are several restrictions that come from within the codes, the Constitution of the United States, and Supreme Court decisions.

The State Fire Prevention Code, Section 29.8 states that an inspection must take place at "an hour reasonable under the circumstances involved" (Michigan Fire Prevention Code, 2012). This means that general inspections must be performed during normal business hours unless

situation involved requires an inspection at a specific time that would not be during normal business hours. This can be done in the event that a significant threat to life safety exists. There are several other restrictions to performing inspections besides time of day.

There are several Supreme Court decisions that affect the inspection process. The 1967 Supreme Court decision in See vs. The City of Seattle set the precedent for the need of a warrant to inspect the area of a business "not open to the public" (Find Law, 2010, para. 10). This allows the business owner the right to demand a warrant for an inspection of private areas of the business. This protection comes from the Fourth Amendment of the Constitution of the United States, which reads;

> [The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized] (Fourth Amendment, 2012).

The owner of a business is afforded the same right under the Constitution in his place of business as he is in his own home. Both Camara vs. Municipal Court and Frank v. Maryland held that the owner of a business or housing unit can not be legally penalized for not allowing an inspection without a warrant, should he demand one prior to an inspection (*Camara v. Municipal Court*, June 5, 1967) (*Frank v. Maryland*, May 4, 1959).

The answer to the first research question, "What are the legal considerations involved with performing fire inspections" can be summed up by saying that State of Michigan law, City of Sterling Heights ordinances and the International Fire Code clearly give the authority to

conduct fire inspections to the SHFD, However, there are several laws and Supreme Court decisions that place restrictions on and provide guidance to how they are performed.

While routine fire inspections are guided by these rulings as well as the state guidelines, most business owners will simply comply with local ordinances and allow for a fire inspection. It is important for all parties involved to know the rules, as well as how to handle these situations if they arise. The fire department still maintains the right to inspect a property if an eminent threat to life safety exists.

What are the potential liabilities to this type of system?

Liabilities issues are tricky to say the least. Nothing can prevent someone from bringing a lawsuit for any reason. Many lawsuits have been filed against fire departments, and specifically related to fire inspections. The potential for liability can never be avoided, but it can certainly be significantly reduced.

Fire inspections are considered a governmental function as they are undertaken for the common good, which significantly reduces the potential for liability when compared to proprietary functions which would be more susceptible to liability because they may be performed “for profit”. However, fire inspections are also functionary acts which, as opposed to discretionary acts, and can be more susceptible to liability (Varone, 2012).

Negligence also plays a role in liability. As seen in the Station Night Club fire, and others, a person acting in good faith and without malice would be exempt from liability, unless negligence is proven. In fact, for the City of Sterling Heights, the 2009 International Fire Code specifically addresses liability in section 103.4 by stating;

> [The fire code official, member of the board of appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without

> malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally, and is hereby relieved from all personal liability for any damages accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties] (International Code Council, Inc [ICC], 2009, p. 2)

Liability can be reduced in several ways. Clymer (2000) suggests that proper SOG's should be in place, and personnel properly trained in their use. IFSTA (2009) recommends that fire inspections should concentrate on the quality of the inspection and not the frequency as a means to reduce liability. Also, once a violation is discovered, proper documentation and follow through is very important, which was an important factor in the 1970 Gold Rush Hotel fire in Alaska (Findlaw.com 2010).

This research has suggested that the issues of liability should be reviewed in depth prior to developing a fire prevention model, or changing an existing one. Municipalities need to consider adopting the proper codes, developing appropriate SOG's, and paying close attention to proper documentation and follow thorough with violations as a way to reduce liability. However, liability can never be completely eliminated,

What training and certifications should fire personnel have in order to perform fire inspections?

The training level of personnel responsible for performing fire inspections in Michigan has little requirements; however, there are many standards and suggestions that are considered best practices. In reality, the State of Michigan places no specific requirements on training levels for inspectors working for municipal fire departments. If a fire inspector is

employed by the State of Michigan to inspect state buildings, they are required to be a certified fire inspector (Mick Dingman, personal communications, June 7, 2012).

Michigan Occupational Safety and Health Administration (MIOSHA) Part 74 set rules for fire departments in Michigan. Rule 7411 (1) (a) states that an employer is required to "Provide training to an employee commensurate with the duties and functions that the employee is expected to perform" (Part 74, Fire Fighting, 1977/2001). NFPA's *Fire Protection Handbook* simply states that "with proper training and support, suppression personnel are effective in code enforcement inspections" (National Fire Protection Association [NFPA], 2008, para. 4).

Perhaps the best defined standard for the training level of fire inspectors comes from the National Fire Protection Association (NFPA) (2009)1031: *Standard for Professional Qualifications for Fire Inspector and Plan Reviewer*. This standard dictates the knowledge and skills required of a defined task and categorizes different levels of education and responsibility for fire inspectors. A study of this standard leads the researcher to believe that NFPA suggests a person be trained to the level of Fire Inspector I in order to perform fire inspections (pg 7-9).

NFPA 1201 (2004): *Standard for Providing Emergency Services to the Public,* goes into a little more depth than NFPA 1031 in regards to requiring training to employees by stipulating that the Fire Marshall is responsible to provide training to Fire Inspectors with the help of the Training Officer. Also, the standard states that "specialized or advanced training shall be provided to anyone required to carry out such duties" (pg.7). Certainly, expecting suppression personnel to perform fire inspections can be considered specialized and/or advanced. However, NFPA standards are looked at as strong suggestions and industry standards, and not a requirement.

While a fire chief in the State of Michigan has the right to simply send out a member of their fire department to perform inspections without any of the training highlighted in NFPA 1031, it certainly would not be a wise decision. Finding a good mix to the level of training needed for suppression personnel to perform fire inspection is the key. For example, the Coeur d' Alene Fire Department, Idaho requires all of its sworn personnel to hold a State of Idaho Fire Inspector certification. This certification is a twenty-four hour course, with a yearly recertification test based on current codes (Greg Rod, personal communications, May 31, 2012).

Portland Fire Department, Oregon is looked at as having one of the premier company inspection programs, which they call Company Fire Inspection Program (CFIP). Furthermore, the State of Oregon requires all members of the Oregon Fire Service to be certified to the Company Inspector level. Portland Fire Department also has an additional requirement which takes about six hours of education. They offer monthly training in order to keep up skills and certification (Stew White, personal communications, August 3, 2012).

Colorado Springs Fire Department (CSFD) allowed their company inspection program to lapse due to several issues. This program was reinstituted after a serious fire which was not caused by code violations, but simply highlighted the need for inspections. CSFD provides 8 hours of training to its members as well as guidance from the inspection division on their first two inspections (Randolph Royal, Carl Lyman, personal communications, August 24, 2012).

The City of Novi, MI developed their own in house program to train suppression personnel to perform fire inspections. Brighton, Mi Fire Chief Mike Evans, who developed the training program for the Novi Fire Department as the Fire Marshal, explained that the training was developed using NFPA 1031, as well as certain issues that were unique to the City of Novi, and the way the fire department operated. Chief Evans reported that the training and the format

in which it was delivered did an excellent job in preparing their personnel to perform inspections (Michael Evans, personal communications, June 20, 2012).

Budgets will also play a role in the level of training that will be provided to personnel. After all, financial restrictions are the reason that most Fire Prevention Divisions are understaffed to begin with. While the argument can be made that anyone performing fire inspections should be trained the level of NFPA 1031, including maintaining that level, the financial reality of that request may prove too burdensome. The cheapest way to provide the training would be to do so using an online training course, while suppression people are on duty. However, the cheapest way is not always the best way.

So, answering the third research question, what training and certifications should fire personnel have in order to perform fire inspections, there is no perfect answer. Since the requirements within the State of Michigan do not provide great guidelines, the Fire Chief has much discretion. The Fire Chief should weigh the cost of training with the desired result keeping in mind the issue of liability, customer service, code compliance and life safety.

What impact would performing fire inspections have on the work load of the extinguishment division?

The Sterling Heights Fire Department responded to a total of 11,344 incidents in 2011, which was an increase of 6% from the 10,681 incidents in 2010. This increase has been steady from the prior years. Most incidents are single unit responses from one of the Paramedic Engine Companies, but when considering multiple unit responses, there were a total of 13,815 responses in 2011, from all apparatus. Incidents per station in 2011 was broken down as shown in Table II. Responses by company in 2011 is shown in Table III. The difference between the 13,815 of total

responses and the 13,788 shown in Table III comes from odd apparatus assigned to special incidents, and these incidents were not considered in this research.

Table II

Station	2011 Incidents
1	2794
2	2549
3	1976
4	2081
5	1944
Total	11344

Table III

Company	2011 Responses
Engine 1	2563
Engine 2	2559
Engine 3	2021
Engine 4	2159
Engine 5	2063
Rescue 1	1258
Truck 1	771
Battalion	394
Total	13788

To determine the impact of 2011 responses on the workload, this research used the responses from the five Engine Companies, as the responses of the Rescue and Truck were significantly less than the Engines, and would reduce the average time spent on incidents dramatically. Considering the responses from the five Engines, the average responses per Engine in 2011 was 2,273.

Of the 11,344 incidents in 2011, 7,587 of them occurred between the hours of 0800-1700, which equates to 66.9%, rounded to 67%. The 0800-1700 timeline is considered the “work day” for the 24 hour shift, and is when fire inspections would likely take place, with few special exceptions. The average service time per apparatus, per incident in 2011 was 41.56 minutes. Considering the average Engine Company incidents in 2011 of 2,273, multiplied by the 67% of these incidents that occurred during the work day hours, each Engine Company responded to an average of 1,523 incidents during the “work day”. 1,523 incidents divided by 365 days per year equals 4.17 incidents per Engine Company per “work day”. 4.17 incidents per day, multiplied by the 41.56 minute average per incident equals 173.31 minutes per Engine Company, per day, or just under three hours per day.

The normal work day begins each day with Roll Call, followed by station duties, which generally consumes 1.5 hours per day. Each company is generally scheduled for 2 hours of training each day. Each member is expected to perform physical fitness during the work day, and one hour is usually assigned for this task. Shopping for food, cooking and eating lunch can easily consume 1.5 hours of the day as well. Considering these timelines, it would seem that the “work day” is completely consumed by the current work load, as shown in Table IV and some efficiencies would need to be examined should inspections be added to the workload.

Table IV

Activity	Time Spent
Roll call, Station duties	1.5
Training	2
Physical Fitness	1
Shopping, cooking, eating	1.5
Incident responses	3
Total	9

The City of Sterling Heights currently has 3916 inspectable occupancies in the following classes as shown in Table V. SHFD records also reveal that there is an average of 11% vacancies in these properties, or 431.

Table V

Occupancy	
B- Business Group	1621
A- Assembly Group (A-1,2,3,4,5)	320
E- Educational	51
F- Factory Group (F1,2)	671
R- Residential Group *	177
S- Storage Group (S1,2)	247
M- Mercantile Group	582
I- Institutional	20
U- Miscellaneous	227
Total	3916

These inspectable properties are somewhat evenly disbursed throughout the city, with the exception of District I, as shown in Table VI. The difference in District I is because of Lakeside Mall and the surrounding areas. The districts were developed when the Prevention Division had six inspectors. These districts are not the same as the five station districts, but for this research they are used to show the disbursement throughout the city.

Table VI

District	Occupancies
1	812
2	640
3	634
4	633
5	612
6	585
Total	3916

In discussions with senior staff, it was decided that if Extinguishment personnel were to be used to perform inspections, they would be best suited to perform inspections in certain

Assembly, Business, Educational, and Mercantile groups. Each group would also have certain locations that would need to have a certified Fire Inspector perform the inspection, per the discretion of the Fire Marshal. The average time per inspection classification is shown in Table VII, using inspections performed in 2011.

Table VII

Use Group	Count	Average Time (mins)
A	287	77.4
B	144	56.4
E	4	90
M	153	58.8

There are a total of 2,574 occupancies in the groups that were identified feasible for Extinguishment personnel to inspect. Considering that 284 (11%) are vacant, and not a priority to inspect, that would leave 2,290. Further considering that 300 of these occupancies may be considered too advanced for Extinguishment personnel to inspect, the remaining number would be 1,990 occupancies. This number is still way to high to realistically believe that fire companies can complete these inspections every year. There are currently 21 Company Officers. Theoretically, if each Company Officer was given six inspections to complete each month, there would be 126 inspections completed each month. If this was done for eight months out of the year, fire companies could complete 1,008 inspections in a year.

If perhaps each Company Officer were given four inspections per month, there would be 84 inspections completed per month, or 672 in eight months. This would allow for 2,106 to be completed in a three year time frame.

There is no easy answer to the fourth research question, what impact would performing fire inspections have on the work load of the extinguishment division. The current workload seems to reveal that there is no time for any added work. As previously stated, should making the

move to having fire companies provide fire inspections be considered, there would have to be some significant changes to the current workload that would not effect the quality of service the department provides.

What Standard Operating Guidelines (SOG's) would need to be changed with the implementation of such a program?

The Sterling Heights Fire Department has 334 Standard Operating Guidelines in the categories shown in Table IX.

Table IX

Administrative Orders	36
ALS Procedures	18
Fire Prevention Regulations	40
Fireground Guidelines	32
General Guidelines	37
Policies	59
Radio Procedures	42
Rules and Regulations	39
Safety Guidelines	31
Total	334

A study of these SOG's revealed that the following guidelines would need to be changed to address Fire Extinguishment personnel providing inspections.

Administrative Orders

- Limited Duties
- Officer Certification Training
- Officer Mentoring
- Performance Appraisals
- Probationary Firefighter Development
- Violation Compliance & Ticket Issuance

- Training

Policies

- Assignments-Responsibilities

Rules and Regulations

- All Officers
- Acting Officers
- Assistant Chief Job Description
- Battalion Chief Job Description
- Fire Marshal Job Description
- Chief of Training Job Description
- Fire Captain Job Description
- Fire Lieutenant Job Description
- Fire Lieutenant Medic Job Description
- Fire Inspector Job Description
- Fire Sergeant Job Description
- Firefighter Job Description
- Fire Inspection Frequency & Risk Assessment
- Fire Prevention Division
- Station Captain
- Lieutenant
- Training Division

In answering the final research question, what Standard Operating Guidelines (SOG's) would need to be changed with the implementation of such a program, it was determined that there are specifically 25 SOG's that would need to be changed. Certainly, there would also need to be several new SOG's written to guide the change of the Extinguishment Division providing inspections.

Discussion/Implications

Since this research project began, the situation in the Fire Prevention Division has become worse, and seems to continue to get worse by the day. As of September 15, 2012 there were 54 uncompleted plan reviews, 10 uncompleted fire reports and hundreds of plan reviews that have yet to be entered into the computer tracking program. During 2012, there have no general fire inspections performed. The only fire inspections that are performed are permit driven, mainly liquor licenses. Recently, four gas stations were found to have suppression systems that were past due for hydrostatic testing. These facilities were issued 10 day warnings to address the situation. A proper inspection rotation would have found this problem well in advance. The Fire Chief is eagerly awaiting the political fallout that will come should these facilities need to be shut down, or begin receiving progressive fines. The current situation is failing miserably, and can not even keep up in a reactionary mode.

The Mission Statement of the Sterling Heights Fire Department states;

> [The mission of the Sterling Heights Fire Department is to reduce deaths, injuries, and property loss from fire, hazardous materials incidents, emergency medical situations, and other disaster/emergencies by being pro-active in providing excellent, state of the art, pace setting, life and property preservation, emergency services, and public fire and life safety education in a professional and cost effective manner, unhampered by tradition while

recognizing and treating our people as our most valuable resource, the key to our success, and critical element to our future] (City of Sterling Heights, n.d., para. 1).

This Mission Statement has been in effect since 1989, without any changes. In our hay day, SHFD actually worked hard to live up to this standard. The organization was very proactive in fire prevention and fire safety education. However, like many other organizations, several years of budget cuts has taken its toll

This research determined that the Fire Chief certainly has the right to use suppression personnel to perform fire inspections. Unfortunately, the researcher also believes that because the Chief has the right to send suppression personnel out to perform inspections without any training, it may prove hard for the department to defend the need for proper funding to provide an acceptable level of training to suppression personnel. Certainly the argument can be made that proper training would help reduce the liability to the city, as well as increase the life safety prevention capability of the department.

This research also highlighted several potential liability issues that can arise with a company inspection system. The researcher agrees completely with Clyman (2000) who suggested that the proper development of SOG's, and Vandlandingham (2006) who suggested that an inspection system needs to be properly managed and planned as a couple of ways to significantly reduce potential liability. Furthermore, fire suppression personnel, especially those who participate in emergency medical response, are well versed in issues pertaining to liability. As the decision not to prosecute the Fire Inspector in the Station Night Club, Breton (2007), pointed out, even if the results were the loss of a hundred lives, it does not mean that there was gross negligence. Fire service personnel routinely act in a professional manner, and liability from gross negligence in virtually non existent

Perhaps the most troubling issue that resulted from this research is the question of whether the suppression personnel have the time to perform fire inspections. Should a system like this be contemplated, the amount of inspections conducted would need to be significantly studied. The researcher concurs with Bradley (2003), Walz (2011) and Vandlandinham (2006) in that the degree of the workload will certainly affect the quality of the inspection and the overall effectiveness of the fire prevention plan.

By far the biggest road block to a system such as this will be in convincing the suppression personnel that this is important. This will not be an easy task. After several years of concessions, layoffs, and binding arbitration pending to address the expired contract, the overall morale is at an all time low. Convincing the work force that this is a worthwhile endeavor will be no easy task. The researcher is very much in touch with the sentiments of the suppression personnel, and agrees with Gillette's (2001) discovery from his department that many would feel it is not their job, and that they were not properly trained to perform it.

There is no doubt that this would require a significant cultural change within the organization. This would have to start at the top, as Love (2009) pointed out, the Fire Chief would have to be the leading advocate for fire safety. Fire personnel need to be aware that, by performing fire inspections, they are actually making their job safer to perform. NFPA's *Fire Prevention Handbook,* (2008) emphasizes the point that by performing fire inspections. Fire companies become more familiar with buildings in their response district, which better prepares them to respond to the various emergencies that they are called to (pg. 7-217).

Another point to consider is that there are many other benefits to the response of the SHFD that can be improved with a company inspection program. The SHFD has a new CAD system within the department. This system currently does not have building names associated

with addresses due to the fact that it takes extensive man hours to investigate this data and enter it into the database. Also, SHFD uses the Detex key system, which we call the Key Safe System. This store keys in over 400 businesses in the city to allow access to responding companies after hours. This system has not been maintained in years due to the lack of manpower and may either be inoperable, or contain the incorrect keys. Company inspections could address both of these issues.

The optimum situation is to have a well staffed Fire Prevention Division capable of providing all the components of fire prevention in an efficient and timely manner. The researcher agrees with the opinions of Gray (2011) and Crawford (2011) in that fire companies can not perform the same level of inspections as a certified Fire Inspector. However, the researcher is confident that the highly qualified members of the SHFD are more than capable to perform company inspections, once properly trained. There should be no reason to doubt that the results would be similar to what Bradley (2003) found in that very few code violations were missed by suppression personnel. Certainly having fire companies performing inspections is better than the current alternative that is taking place in the City of Sterling Heights in that there are virtually no inspections being performed.

One big concern the researcher has is that, if this new duty was taken on by the extinguishment personnel, and it became too overwhelming to the work load, what would give? It is important to consider where the fire department has its greatest impact currently. There is no doubt that the SHFD has the greatest effect on saving lives and improving quality of life in the area of Emergency Medical Response (EMS). As highlighted in a previous Applied Research Project, your chances of surviving a cardiac arrest are greater in the City of Sterling Heights than most other places in the nation (Martin, 2011, p. 22).

This exceptional level of EMS care is because the SHFD is blessed with highly capable Firefighter/Paramedics who stay on top of their game supported by a very robust Training Division, augmented by several adjunct instructors from throughout the organization. Clearly, SHFD has the greatest effect in EMS, with several successful resuscitations already this year and untold impact on reduced cardiac damage from quick recognition of myocardial infarctions, which lead to reduced door to balloon time for our patients. Compared with the fact that we have only had one fire fatality in an inspectable occupancy in ten years, it is easy to see where the priority needs to be.

The researcher is not saying that SHFD should not perform fire inspections; however we must be realistic in what we can provide with the current staffing levels in the organization. It is the researcher's opinion that it would be a mistake to undertake a company inspection program if it would compromise the other services that SHFD provides. Hopefully, this research provided the beginning steps for a needs assessment that should be performed in order to study the feasibility of tasking the Extinguishment Division with conducting fire inspections.

Recommendations

The researcher recommends that if the SHFD wishes to pursue a company inspection program there should be a committee developed consisting of key senior staff members as well as representation from several suppression personnel from all levels of the division. The committee would be tasked with conducting a needs assessment, using this research as a starting point. Furthermore, the exact level of training should be determined, as well as how that training will be provided and how often there will be refresher training. The researcher recommends that a 40 hour training class be developed that would include the study of legal issues and liability

concerns associated with fire inspections. The training should conclude with the student actually performing a few inspections under the supervision of the Fire Marshal or Fire Inspector.

In the next two years, over 30% of the fire department will be retiring. These members represent a significant amount of the Officers in the organization. The committee would need to consider the effects that this will have on the organization, and also use this information to determine the priority of who would need to be trained.

The committee should also work with the Information Technology Department (IT) to identify the options that would allow for the electronic collection of data that could also input the information into the New World CAD system currently in use. This would streamline to inspection process and improve effects to the work load.

The biggest factor will still remain to be the expectations of the suppression personnel. The committee would need to determine the exact number of inspections as well as the types of occupancies that should be placed on fire companies. It would be wise to start slowly and concentrate on quality before trying to determine the long term goals. As the research revealed, if each Officer were given just four inspections per month for eight months, 672 inspections could be conducted each year. This would allow for 2016 inspections to be performed every three years, which would mean that under a three year plan, the SHFD should be able to reach each occupancy.

The department needs to seriously consider its overall objectives, and build realistic goals. The hazard assessment should be reinstituted in order to determine the frequency of inspections to key, high life threatening occupancies. The self-inspection process should also be considered as a viable tool for certain occupancies. Hopefully, this research can act as an instrument to assist in a needs assessment for company inspections.

References

Anthony, D. N., & McMahon, B. V. (2000). *Sovereign immunity: can the king still do no wrong*. Local Government, 10-16. Retrieved from http://www.vsb.org/docs/valawyermagazine/apr00anthony_mcmahon.pdf

Bradley, S. F. (2003). *Efficiency of fire inspections conducted by fire companies*. Retrieved from National Fire Academy: http://www.usfa.fema.gov/pdf/efop/efo35881.pdf

Breton, T. (2007). *The station night club disaster - fire marshal shielded - grand jury tolr R.I. law makes civil officials immune from liability*. Retrieved from http://www.redorbit.com/news/science/825586/the_station_nightclub_disaster_fire_marshal_shielded_grand/

Camara v. Municipal Court, 387 U.S. 523 Justica.com 1-4 (June 5, 1967).

City of Sterling Heights. (n.d.). *Fire prevention and protection*. Retrieved from http://www.amlegal.com/nxt/gateway.dll/Michigan/sterlinghts/charterandcodeofordinancesofthecityofste?f=templates$fn=default.htm$3.0$vid=amlegal:sterlinghts_mi

City of Sterling Heights. (n.d.). Retrieved from http://sterling-heights.net/bins/site/templates/default.asp?area-_2=pages/gov/citydepts/fire/admindiv/firedeptadmin_194.dat&area_1=pages/nav/gov/citydepts/fire/fire.dat&area_3=pages/gov/fire_rights.dat&area_0=0.dat&area_8=0.dat&objected=B10A78250&ml_index=0&NC=5228X

Clymer, R. E. (2000). *Developing a standard operating procedure to reduce liability resulting from fire prevention inspections*. Retrieved from National Fire Academy: http://www.usfa.fema.gov/pdf/efop/efo31538.pdf

Crawford, J. (2001). *Fire prevention: a comprehensive approach*. Upper Saddle River, New Jersey: Prentice Hall.

Crawford, J. (2011, December 1, 2011). *The truth about company level inspections*. Fire Rescue, *29*(12), 66-67. Retrieved from http://www.firefighternation.com/article/fire-prevention-and-education/truth-about-company-level-inspections

Diamantes, D. (2007). *Fire prevention inspection and code enforcement* (3rd ed.). Clifton Park, NY: Delmar Cengage Learning.

Federal Emergency Management Agency. (1999). *Developing effective standard operating procedures* (FA-197). Retrieved from United States Fire Authority: http://www.usfa.fema.gov/downloads/pdf/publications/fa-197-508.pdf

Findlaw. (2010). http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?court=us&vol=387&invol=541

Findlaw.com. (n.d.). http://ak.findacase.com/research/wfrmDocViewer.aspx/xq/fac.19761001_0001.AK.htm/qx

Fourth amendment-search and seizure. (2012). Retrieved from http://caselaw.lp.findlaw.com/data/constitution/amendment04/

Frank v. Maryland, 359 U.S. 360 Justica.com 4 (May 4, 1959).

Gillette, J. K. (2001). *Criteria for selecting program guidelines of engine and medic company fire inspections*. Retrieved from National Fire Academy: http://www.usfa.fema.gov/pdf/efop/efo15843.pdf

Gray, J. (2011, May 11, 2011). *Why company inspections don't work*. Fire Chief. Retrieved from http://firechief.com/blog/why-company-inspections-dont-work

International Code Council, Inc. (2009). *International Fire Code*. Country Club Hills, IL: ICC.

International Fire Service Training Association. (2009). *Fire inspection and code enforcement handbook*. (7th ed.). Stillwater, OK: Fire Protection Publications.

Lawyers.com. (2001). *Public duty doctrine* Retrieved from http://research.lawyers.com/glossary/public-duty-doctrine.html

Lee, Y. S. (1987). *Civil liability of state and local governments: myth and reality*. Public Administration Review, 47(2), 160-170. Retrieved from http://0-search.proquest.com.catalog.lib.cmich.edu/docview/197201331?accountid=10181

Love, M. (2009, January 1). *Chief must advocate building fire safety*. Fire Engineering. Retrieved from http://www.fireengineering.com/articles/print/volume-162/issue-1/departments/fire-prevention-bureau/chief-must-advocate-building-fire-safety.html

Martin, C. (2011). *The future staffing of the Sterling Height Fire Department* Retrieved form the National Fire Academy http://www.usfa.fema.gov/pdf/efop/efo45883.pdf

National Fire Academy. (2011). *Executive analysis of community risk reduction* (2nd ed.), Student Manual. Emmitsburg, MD: Untied States Fire Administration.

National Fire Protection Association. (2008). *Fire prevention handbook*. In A. E. Cote, C. C. Grant, J. R. Hall, R. E. Solomon, & P. A. Powell (Eds.), Organizing for fire and rescue services (20 ed Vol. 1, pp. 7-8). Quincy, MA: NFPA.

National Fire Protection Association (2009). *1031 Standard for Professional Qualifications for Fire Inspector and Plan Reviewer* Quincy, Ma

National Fire Protection Association (2010). *1201 Standard for Providing Emergency Services to the Public* Quincy, Ma

Part 74, Fire Fighting, Department of licensing and regulatory affairs Director's Office General Industry Safety Standards § R408.17411 (2001 & Suppl. 2001).

Public Act 207 of 1941, Fire Prevention Code, 29 Michigan Legislative Website § 29 (1941 & Suppl. 2006).

Smith, D. L. (2012). *Code source: fire code*. Clifton Park, NY: Delmar Cengage Learning.

United States Census Bureau. (n.d.). http://quickfacts.census.gov/qfd/states/26/2676460.html

United States Fire Administration. (2010, March 31). *America's fire and emergency leaders strategic plan fiscal years 2010-2014* (Annual Report). Retrieved from United States Fire Authority: http://www.usfa.fema.gov/downloads/pdf/strategic_plan.pdf

Vandlandingham, J. A. (2006). *Developing an effective fire inspection program*. Retrieved from National Fire Academy: http://www.usfa.fema.gov/pdf/efop/efo38814.pdf

Varone, C. J. (2012). *Legal considerations for fire and emergency services* (2nd ed.). Clifton Park, NY: Delmar Cengage Learning.

Walz, C. (2011). *Formatting a company inspection program for City of Pittsburg Bureau of Fire*. Retrieved from National Fire Academy: http://www.usfa.fema.gov/pdf/efop/efo45388.pdf

Appendix I

STERLING HEIGHTS FIRE DEPARTMENT

STANDARD OPERATING GUIDELINES MANUAL

FIRE PREVENTION REGULATIONS

SELF INSPECTION FOR BUSINESSES

DATE OF ORIGIN 11/20/06 REVISED DATE BY FIRE CHIEF JOHN CHILDS PAGE: 1 OF 1

PURPOSE

The purpose of the self-inspection program for businesses is to increase the contact between the fire department and the city's business community and to help keep them self-aware regarding fire life & safety issues in between hands on fire inspections.

PROCEDURE

The self-inspection program will run continuously throughout the year in conjunction with regular general inspections. The 4D computer program will be set up to distribute the inspections equally amongst the inspector districts. There will be a total of 60 self-inspections mailed every month.

Businesses will have 30 days to reply. If a business does not respond, then a general inspection of that facility will be performed. If all inspection forms are returned, a control group of 30% will be randomly chosen for inspection to insure compliance to the International Fire Code (IFC). The district's assigned fire inspector will then be responsible for entering any information the business' self-inspection form contains.

An evaluation of the program will be conducted after the completion of the yearly cycle, if the compliance numbers are of an acceptable level then a determination will be made to increase the number of business mailings each year.

RESULT

This will increase the Fire Prevention Division's contact with an additional 720 businesses annually. This will accomplish that every business within the City of Sterling Heights will go no longer than two years for a fire life & safety inspection, either self-inspection or inspector performed.

Appendix II

STERLING HEIGHTS FIRE DEPARTMENT

STANDARD OPERATING GUIDELINES MANUAL

ADMINISTRATIVE ORDERS

VIOLATION COMPLIANCE & TICKET ISSUANCE

DATE OF ORIGIN 10-02-08 REVISED DATE 10/15/08 BY FIRE CHIEF STEVE KOVALCIK PAGE: 1 OF 1

PURPOSE STATEMENT

To establish a firm time-line for Fire Prevention Division personnel in the process of gaining violation compliance and the issuance of a ticket in that process.

STATEMENT OF POLICY

1. General – It is the policy of the Sterling Heights Fire Department that the Fire Prevention Division will conduct annual fire inspections of all occupancies except residential, operating within the City of Sterling Heights. During the course of all inspections all violations will be noted on the proper inspection form, they will be discussed with the business/property owner to ensure that the business/property owner is fully aware of the violations as noted so as to answer any questions and eliminate any confusion and a copy of the form will be left with the business/property owner prior to the inspector leaving the premises. If after an established time parameter the business/property owner does not comply with the stated violation corrections a ticket will be issued to the business/property owner.

2. Time Parameter – In order to issue a ticket to a business/property owner the following time parameters will be followed:
    a. Conduct inspection, discuss any violations found with business/property owner or their on-site representative and set a re-inspection date.
    b. Conduct re-inspection on set date to ensure compliance. If business/property owner has failed to correct all violations but he/she is showing good faith in their attempts to correct any outstanding problems additional leeway in time may be allowed by the inspector. If the inspector determines that the business/property owner or their on-site representative has willfully not complied, a 10-day warning letter will be issued to the business/property owner as a warning of ticket issuance and a second re-inspection date will be established.
    c. Conduct a 2nd re-inspection on established date to ensure compliance. If compliance has not been achieved a ticket will be issued to the business/property owner and a weekly inspection of the premises will be conducted and additional tickets will be issued with escalating costs added as well, according to the Municipal Civil Infraction fee schedule, until compliance is achieved.

3. Objective – It is the sole intent of the Sterling Heights Fire Prevention Division to gain code compliance through professional working relationships established with all business/property owners or their on-site representatives operating within the City of Sterling Heights. The issuance of a ticket should be viewed as the final effort to gain compliance.

NOTE – The inspector has the discretion at his/her disposal to issue a ticket at any time to any business/property owner depending on the severity or condition of the violation found, a reoccurrence of violations that were previously addressed or any hazardous condition that is deemed by the inspector as deserving of a ticket.

Appendix III

STERLING HEIGHTS FIRE DEPARTMENT

STANDARD OPERATING GUIDELINES MANUAL

RULES AND REGULATIONS

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

DATE OF ORIGIN 7/20/06 REVISED DATE BY FIRE CHIEF JOHN CHILDS PAGE: 1 OF 6

PURPOSE STATEMENT

The function of the fire prevention division shall be the implementation, administration and enforcement of the provisions of the International Fire Code. The Fire Prevention Division, through the Fire Chief, is responsible for the enforcement of the City-adopted fire codes and the provisions of the Fire Prevention Ordinance. The Fire Prevention Division shall function to insure that the buildings and structures are built, maintained, and in compliance with fire code requirements. Fire inspections are conducted to eliminate hazardous conditions that could cause or contribute to a serious fire.

AUTHORITY

Public Act 207, Sec. 29.8, the Michigan Fire Prevention Code, and the City Charter adoption of the International Fire Code which states the fire code official (fire inspector), is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions.

TRAINING

Fire inspector shall be certified as per the collective bargaining agreement.

INSPECTIONS

The fire code official is authorized to enter and examine any building, structure, marine vessel, vehicle or premises for the purpose of enforcing this code. The fire code official is authorized to conduct such inspections as are deemed necessary to determine the extent of compliance with the provisions of this code and to approve reports of inspection by approved agencies or individuals. The fire code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each. The fire code official is responsible for conducting inspections in the following occupancies:

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

TYPES OF BUILDINGS TO BE INSPECTED INCLUDE:
(Totals are as of record, 2006)

1. Assembly group A- includes: (333 total)
    - A-1
    - A-2
    - A-3
    - A-4
    - A-5
2. Business group B- (1458 total)
3. Educational group E- (51 total)
4. Factory group F- includes (665 total)
    - F-1
    - F-2
5. High hazard group H- includes (1 total)
    - H-1
    - H-2
    - H-3
    - H-4
    - H-5
6. Institutional group I- includes (27 total)
    - I-1
    - I-2
    - I-3
    - I-4
7. Mercantile group M (593 total)
8. Residential group R- includes (152 total)
    - R-1
    - R-2
    - R-3
    - R-4
9. Storage Group S- includes (199 total)
    - S-1
    - S-2
10. Miscellaneous group U (71 total)

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

PAGE: 3 OF 6

The City inspection districts will be as follows:

INSPECTION DISTRICTS (2006)		**TOTAL PER DISTRICT**
District #1- Sections	**1,2,7,11, 13**	**658**
District #2- Sections	**4,6,8,14,15,17**	**578**
District #3- Sections	**3,5,9,10,12,16,18**	**599**
District #4- Sections	***21,24,30,31,32,36***	***588***
District #5- Section	**20,22,25,26,27,33**	**565**
District #6- Sections	**19,23,28,29,34,35**	**559**

It will be the responsibility of the Fire Marshal to personally conduct the inspections for the following use groups:

All city buildings, Educational group E, Institutional group I, Miscellaneous group U.

INSPECTION RISK ASSESSMENT
A risk assessment will be completed for each use group in the city.
(See examples in Appendix A)

FREQUENCY OF INSPECTIONS

Inspection frequency will be conducted as deemed necessary per use group after all occupancies have had a risk assessment performed.

Group A	January- March
Group F, H	April- August
Group S, R	April- August
Group M	September-December
Group B	Quarterly mailing* with follow up
Fire Marshal	
Group E	September- October
Group I	December- May
Group U and city buildings	May- September

*Quarterly mailings - The business use group will be put on a 3-year rotation with mailings. Approximately 500 businesses will be done yearly. A control group of 30% will be inspected for compliance. All businesses that fail to respond will be inspected. (The mailing for businesses will start after use groups A, F, H, S, and M have been assessed.)

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

PAGE: 4 OF 6

Appendix A

Assembly Risk Assessment

Business name - _____

Business Address- _____

Risk Rating- _____ *Inspection District* _____

Capacity -		*less than 300* _____	*over 300* _____
Commercial cooking system -	maintained	_____	not maintained _____
Hood and duct system-	maintained	_____	not maintained_____
Sprinkler system -	maintained	_____	not maintained_____
Fire Alarm system-	maintained	_____	not maintained_____
Fire extinguishers-	maintained	_____	not maintained_____
Exit pathways-	maintained	_____	not maintained_____
Proper clearances (heat/elect)	maintained	_____	not maintained_____
Emergency plans	maintained	_____	not maintained_____
Other issue	no	_____	yes _____
			Total _____

Other issues- such as an unsafe practice, change in ownership, non-permitted work etc.
If system is not required, place **(NR)** in **maintained section**
A total of 5 or more negative assessments will put the property into a high-risk assessment.
A total of 3-4 negative assessments will place the property into a moderate risk assessment.
A total of 2 or less negative assessments will place the property into a low risk assessment.

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

PAGE: 5 OF 6

Group F Risk Assessment

Business name - _____

Business Address - _____

_____

Manufacturing Process - _____

Risk Rating- _____ *Inspection District* _____

Square footage		*< 12,000*		*>12,000*	*Group 1* _____
Hazardous materials	maintained	_____	not maintained	_____	
Flammable liquids	maintained	_____	not maintained	_____	
Combustible liquids	maintained	_____	not maintained	_____	
Flammable gases	maintained	_____	not maintained	_____	
Group 2					
Sprinkler system -	maintained	_____	not maintained	_____	
Fire Alarm system-	maintained	_____	not maintained	_____	
Alternative fire ext. system	maintained	_____	not maintained	_____	
Fire extinguishers-	maintained	_____	not maintained	_____	
Fire doors-	maintained	_____	not maintained	_____	
Exit pathways-	maintained	_____	not maintained	_____	
Proper clearances (heat/elect)	maintained	_____	not maintained	_____	
Other issue	no	_____	yes	_____	
			Total	_____	

Other issue- such as an unsafe practice, change in ownership, non-permitted work etc.
If system is not required, place **(NR)** in **maintained section**
Group 1
Any negative assessment in-group one is a high risk
Group 2
A total of 4 or more negative assessments will put the property into a high-risk assessment.
A total of 3 negative assessments will place the property into a moderate risk assessment.
A total of 2 or less negative assessments will place the property into a low risk assessment

FIRE INSPECTION FREQUENCY & RISK ASSESSMENT

Group S Risk Assessment

Business name - _____

Business Address- _____

_____

Manufacturing Process- _____

Risk Rating- _____ *Inspection District*_____

Square footage *< 12,000* _____ *>12,000* *Group 1* _____

Hazardous materials	maintained	_____	not maintained	_____
Group A/ group B plastics	maintained	_____	not maintained	_____
Class I-Class IV commodities	maintained	_____	not maintained	_____
High hazard commodities	maintained	_____	not maintained	_____
Separation of commodities	maintained	_____	not maintained	_____
Group 2				
Sprinkler system -	maintained	_____	not maintained	_____
Fire Alarm system-	maintained	_____	not maintained	_____
Alternative fire ext. system	maintained	_____	not maintained	_____
Fire extinguishers-	maintained	_____	not maintained	_____
Fire doors-	maintained	_____	not maintained	_____
Exit pathways-	maintained	_____	not maintained	_____
Proper clearances (heat/elect)	maintained	_____	not maintained	_____
Other issue	no	_____	yes	_____
			Total	_____

Other issues- such as an unsafe practice, change in ownership, non-permitted work etc.
If system is not required, place **(NR)** in **maintained section**
Group 1
Any negative assessment in-group one is a high risk
Group 2
A total of 4 or more negative assessments will put the property into a high-risk assessment.
A total of 3 negative assessments will place the property into a moderate risk assessment.
A total of 2 or less negative assessments will place the property into a low risk assessment.