IMPROVING INITIAL RESPONSE TO LARGE NON-FIRE INCIDENTS IN THE CITY OF WAUWATOSA

LEADING COMMUNITY RISK REDUCTION

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ABSTRACT

This paper was written to address a problem in the Wauwatosa, Wisconsin Fire Department. The fire department does not have an official protocol for response to large non-fire incidents. The purpose of this research was to provide the fire department with a plan to organize and develop a fire department response procedure for large non-fire departments. The research was conducted using action research based on analyzing data collection to answer four questions:

1. What large non-fire incidents are likely to effect the operations of the Wauwatosa Fire Department?
2. How can response procedures to large non-fire incidents be improved?
3. What external operational resources exist and how can they be more efficiently access?
4. What roles could the citizens of Wauwatosa play in improving response to large non-fire incidents in the city?

Data analysis involved searching for information on fire department response to large non-fire incidents. Interviews were conducted with key personnel and surveys were conducted to gain the perspective and ideas of command personnel from inside and outside of the department. The results found that planning instruments exist that will help develop response protocols. A significant amount of information on various response procedures does exist. Command personnel, through surveys, expressed concerns and gave ideas on improving the current protocol for response to large non-fire incidents.

The primary recommendations made were to evaluate likely disasters, establish a “Disaster Response Plan”, followed by comprehensive disaster response training. Also recommended, was the development of a FEMA, CERT Program for Wauwatosa residents.
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INTRODUCTION

Large non-fire incidents include but are not limited to floods, tornadoes, results of civil unrest and acts of terrorism. The Wauwatosa Fire Department is expected to respond to any of the aforementioned events.

The problem is the Wauwatosa Fire Department does not have an official protocol for response to large non-fire incidents within the city. This lack of direction has resulted in inconsistent and unorganized response practices in the past.

The purpose of this research is to provide the City of Wauwatosa with a plan to organize and develop a fire department response procedure for large non-fire incidents. Action research utilizing personal interviews, survey and literature review were conducted to answer the following questions:

1. What large non-fire incidents are likely to affect the operations of the Wauwatosa Fire Department?
2. How can response procedures to large non-fire incidents be improved?
3. What external operational resources exist and how can they be more efficiently accessed?
4. What roles could the citizens of Wauwatosa play in improving response to large non-fire incidents in the city?
BACKGROUND AND SIGNIFICANCE

“Disasters can occur anywhere. It is the duty of large and small fire departments, well equipped or poorly equipped, to be thoroughly prepared to assist in operations at the scene of a disaster” (Kramer & Bahme, 1992, p.2). In June, 1998, the City of Wauwatosa experienced its second “100 Year Flood within a two year span. In both cases, the resources of the Wauwatosa Fire Department were stretched well beyond their means. The second “100 Year Flood” required requests for Mutual Aid Assistance from over 25 different agencies. This incident showed that the existing Multiple Alarm System was inadequate. This system was designed primarily for fire related responses. Under the conditions of the flood, the needs differed greatly from that of a large fire incident. The flood incident required manpower, small boats and evacuation measures. While manpower was accessible, finding boats and assistance with evacuation proved extremely difficult.

During a review of historical department policies and records, an existing “Task Force” concept was discovered. Task Forces would be used to respond together in sub-divided areas of the city during a natural disaster. This concept offered preplanning of the potential for Natural Disasters and a means to prepare and respond. While this concept was limited to grouping of apparatus and staffing only, it is recognized as an excellent example of preplanning and risk reduction. These documents were last updated in 1987. Currently these documents do not exist in any official department policy or procedure. Over the years this concept has disappeared from department records and the general knowledge of almost all department employees.

On May 6, 1968, Chief of Department Lee R. Light, established Bulletin #145, Procedure During Civil Disturbance. This Bulletin was established to address the potential for civil disturbances within the City of Wauwatosa and the procedure for personnel to follow under
such events. Again, this was a valuable document that has also been forgotten over the years. What is interesting to note is that recent terror events of the world now make this document valuable and surprisingly useful.

The City of Wauwatosa is served by the Milwaukee County Sheriff’s Division of Emergency Government. This agency works with the Fire Department to coordinate emergency management needs. Historically, this agency is quite accessible during non-emergency times and for most minor or moderate emergencies. Unfortunately, when the city needed emergency management the most, during the flood of 1998, only two facilitators were available for all of Milwaukee County. This condition significantly affected the ability to provided meaningful service to the City Of Wauwatosa for that event.

The Wauwatosa Fire Department has developed a Hazard Materials Team and a Technical Rescue Team to address the emerging expectations and requirements of the city in regard to meeting State mandated emergency operations. While these teams are generally used in small-scale operations, they clearly would not be able to effectively operate by themselves in any large scale incident. There are similar teams in neighboring communities but no coordination exists.

It is probable that the future impact of lack of planning will result in a greater risk to the community than necessary. In the National Fire Academy’s *Leading Community Risk Reduction Course*, students are able to learn the importance of preventing risks, especially known or expected risks. Some may argue that risks of responding to large non-fire incidents are impossible to anticipate or plan for. This is not true. While all possible scenarios cannot be determined, many situations can be predicted and therefore planned accordingly. The students also studied the importance and effectiveness of community involvement to reduce risk. This
research links risk reduction with preparation and planning. The research will look at where the Wauwatosa Fire Department is with their current planning. It will also lay out a road map on where it should be going, in respect to the real potential of responding to large non-fire incidents. This research will exceed one of the key United States Fire Administration operational objectives to promote within communities a comprehensive, multi-hazard risk-reduction plan led by the fire service organization.

LITERATURE REVIEW

A literature review was conducted to answer questions relating to the subject of improving initial response to large non-fire incidents in the City of Wauwatosa. The literature review began at the National Fire Academy’s Learning Resource Center where a study of related Executive Fire Officer Program Applied Research Projects was conducted. The research also involved a search of trade journals, review of textbooks and conducting personal interviews. A search of the World Wide Web was performed to obtain a broad perspective of matters relating to response to large non-fire incidents and related subject.

As research was conducted to investigate the issue of response of the fire department to large non-fire incidents a common attitude of “it won’t happen here” was quickly becoming evident among casual conversations within the local fire service community. Having said this, it was the research that took a different view. It was put best in the text Fire Officers Guide to Disaster Control (Kramer & Bahme, 1992), “Hardly a day passes that a disaster endangering many lives and much property does not occur somewhere in our nation” (p.1). For some fire departments, it may be easy to look at a local history that shows few major events and become cynical to the possibility of a major event occurring in one’s district. Not only do these disasters occur, but departments should expect them to occur. This was noted by Kramer and Bahme
(1992) note, “Disasters can occur anywhere. It is the duty of large and small departments, well equipped or poorly equipped, to be thoroughly prepared to assist in operations at the scene of a disaster” (p.2). Coleman and Granito (1988) found the following, “Although the mission and range differs from department to department, most missions share common requirements: effective techniques to manage complex emergency incidents, coordination with other organizations, and skill in communicating with all segments of the community” (p.321).

Milwaukee County has a long history of formal fire response mutual aid and is well documented in the Milwaukee County Emergency Operations Plan, Annex K: Fire and Rescue (October 2002). The County’s Emergency Operations Plan has Annex’s that run from A through L. When questioned on his beliefs of the effectiveness of the Annex K, Assistant Chief Mike Anton of the Wauwatosa Fire Department stated, “The current mutual aid system has served the City of Wauwatosa well for many years and I expect that it is sufficient to serve future needs” (personal conversation, August 2003). The Milwaukee County Annex K is the model that would be used to supply a distressed community with fire and rescue resources in a time of need. These recourses would include apparatus, manpower and the assistance of fire officers to deal with a large-scale incident. This would address the concern of Coleman and Granito (1998), “During disasters, organizations are forced into more and different kinds of interactions with other groups” (p.322). Coleman and Granito (1998) also found that a fire department could expect many other groups to be involved in what normally would be their turf, “During disasters, organizations lose some of their autonomy” (p.322). This is due in a large part by the sheer number of agencies needed to control a large non-fire incident. It is also affected by the fact that a large incident may extend into multiple jurisdictions. What is interesting is the finding of Kramer and Bahme (1992), “No matter how great the threatened danger, if there is warning and available forces are sufficient to
act quickly, it might not result in a disaster” (p.3). This position seems to say that forces may be called-up prior to a disaster, a practice not commonly exercised in the fire service. Having enough help at the scene of a large incident is important. After a large grass fire and apartment fire taxed the City of Oak Creek, Wisconsin in April of 2003, Fire Chief Gerald Hammernik stated, “We did not have enough resources on-scene initially” (personal conversation, September 2003). This echoed during a post incident analysis in May of 2003 where many fire officers expressed concern about the lack of needed resources during their experience in Oak Creek. It was Kramer and Bahme (1992) that said, “The effective control of disasters depends upon the mobilization and deployment of adequate resources” (p.119). Finding what is adequate in terms of resources may be a matter of opinion. To help define that opinion, one might look at what was said by Bachtler and Brennan (1995), “Our ultimate challenge is to improve our effectiveness so that more lives may be saved” (p.687).

Due to infrequency, it may be easy for fire departments to dismiss the potential danger it may face in terms of large non-fire incidents. Fire departments cannot assume “it won’t happen to us”. Bachtler and Brennan (1995) found “The fire service today is involved in every conceivable type of rescue incident” (p.658). Coleman and Granito (1988) add:

> Although local officials may view disasters as too rare to be worth the investment in time and energy, survey data indicate otherwise:

1. Over half of the jurisdictions in a 1992 survey conducted by the ICMA had experienced a disaster in the last 12 years.

2. In the same survey, local governments reported $16 billion in property loses, 2,490 deaths, and 9,161 injuries from disasters since 1970.
3. In an earlier survey, 40 percent of the fire chiefs indicated that a disaster had caused activation of their disaster plan. Winter blizzards, water disasters, windstorms, and hazardous material incidents were the primary disasters that caused the local plan to be activated.

Clearly, local governments are at risk and can expect disaster to strike sooner than later (p.8)

When looking at the type of large non-fire events that a community may face, Bachtler and Brennan (1995), found that, “Natural disasters such as earthquakes, hurricanes, tornadoes, and floods, and the technological events such as vehicular and transportation accidents, explosions, Hazardous Materials releases, fires, structural failures and collapse result in the multitude of conditions that require victim rescue” (p.643). One of the most comprehensive listing of potential hazards a community may face is found in the National Fire Protection Association (NFPA) 1600 Standard on Disaster/Emergency Management and Business Continuity Programs, 2000 Edition. This standard states, “The hazard identification should include but is not limited to, the following types of potential hazards:

(1) Natural events
   a. Drought
   b. Fire
   c. Avalanche
   d. Snow/ice/hail
   e. Tsunami
   f. Windstorm
   g. Hurricane
   h. Biological
   i. Extreme heat/cold
   j. Flood
   k. Earthquake
   l. Volcanic eruption
   m. Tornado
   n. Landslide
   o. Dust/sand storm
   p. Lightning storm

(2) Technical events
A review of the NOAA, National Weather Service Forecast Office’s “Top Weather Events” for 2002 and 2001 was conducted. This review clearly showed that weather related incidents could be expected in the region that the City of Wauwatosa is located. The weather expected to create potential problems according to the NOAA web-site are: ice storms, extreme cold, heavy snow, severe winds/storms/tornadoes, flash floods, severe heat and heavy fog conditions. All of the conditions mentioned have historically affected the Wauwatosa area through the years causing varying degrees of damage, destruction and disruption to the city. Most notably the flash floods of 1997 and 1998 required significant response. The flood of 1998 required the response of over 25 different agencies into the city of Wauwatosa in effort to rescue trapped citizens and respond to flood related problems.

When looking at specific areas of concern for large non-fire incidents the research found the potential for collapse from natural to manmade events to be of great concern. In the manual
In 1990, the Federal Emergency Management Agency initiated an effort to organize national search and rescue capabilities in the United States. Each FEMA Urban Search and Rescue Team developed is made up of 62 persons and is comprised of the following four major components: Search, Rescue, Medical and Technical team functions. Requests for an Urban Search and Rescue Task Force must go through the normal pre-established request procedures. This is normally requested through the local emergency management agency (p.41).

In Milwaukee County, search and rescue is generally available at two levels, local resources and that of the Milwaukee Fire Departments HURT Team, which is a heavy-duty advanced unit. From there, a FEMA Urban Search and Rescue team would be needed to respond. What constitutes an Urban Search and Rescue is well defined by Bachtler and Brennan (1995) by using the City of Los Angeles Fire Department definition:

Urban Search and Rescue, as defined by Los Angeles Fire Department, is the process of mobilizing and managing the resources necessary to safety and quickly remove trapped victims from partially or totally collapsed structures or environments and provide for rapid emergency medical care (p.644).

The research also found the topic of hazardous materials response and the issues involving terrorism well worth investigating. This area of responsibility for the fire department is made clear by Bachtler and Brennan (1995), “Regardless of the level of hazardous material response to be provided within a community, fire service executives must recognize that hazardous materials and environmental planning, prevention, training and response issues are
inherent elements of a comprehensive public safety program” (p.689). While this responsibility is clear, the added potential for terrorism acts cannot be underestimated. As for terrorism, Hawley, Noll and Hildebrand (2002) stated:

Given the current trends in terrorism, preparation for an event can seem somewhat difficult, as scenarios are varied and different. This may seem like a daunting task, but there is a great deal that public safety agencies can do to identify potential targets and prepare for an event (p.17).

When looking at terrorism, it may be helpful to look at the description of Hawley, Noll and Hildebrand (2002), “There are two major categories of terrorism, domestic and international. Domestic terrorism is an act that is planned and carried out in the United States and does not involve any other country or citizens of another county” (p.14).

Response to large non-fire incidents may not be common in every community but these incidents do occur throughout the country. FEMA regularly reviews significant response events and develops reports of some of these occurrences. The research looked at four significant disaster reports: the 1991 Propane Gas Explosion in Perryville, Maryland; the 1989 Gasoline Tanker Fire in Chicago, Illinois; the 1987 Ramada Air Crash in Wayne Township, Indiana; and the Evacuation of Nanticoke, Pennsylvania. The “Lessons Learned” sections were each reviewed for common response shortfalls or successes. The reoccurring lessons learned are:

1. The necessary use of the Incident Command System
2. Effective mutual aid needed
3. Disaster planning including citizen’s distress needs
4. Multi-agency planning and coordination
5. Planning/anticipation of outside needs of equipment/expertise
6. Pre-fire planning
7. Strong leadership
8. Value of practicing Emergency Operations Plan
9. Need for good media relations

The research found extensive information on the related topics of response to large non-fire incidents. While determining which factors are the most critical may be difficult, one element always seemed to be involved the use of the Incident Command System. It was Coleman and Granito (1988) that stated, “A fire departments disaster response should be based on an effective Incident Command System” (p.336). This same emphasis was noted by Bachtler and Brennan (1995) when they said, “Our challenge is to reduce the problems associated with rescue by developing and using effective Incident Management and coordinating systems” (p.643). When looking at Hazardous Materials ad terrorism responses, Hawley, Noll and Hildebrand (2002) said, “A critical benchmark in the operational success of the response to both Hazardous Materials and Terrorism events is the appropriate use of the Incident Command System” (p.106).

The research found that many communities across the country use CERT teams to assist communities when disasters strike. While reviewing the FEMA web site at www.fema.gov/emiweb/CERT/dir.asp, over 300 communities have listed their program with FEMA. These teams are made of common citizens who have a desire to help out their communities during a disaster by learning basic skills. They receive training by the fire department and/or local emergency manager.

Findings in the research often refer to Planning and Preparedness. Coleman and Granito (1988) state quite clearly, “It is the responsibility of the Fire Chief to promote the importance of emergency planning” (p330). When interviewed, Wauwatosa Fire Chief Dean Redman pointed
out that when he arrived in Wauwatosa in 1996, one of his fire priorities was to “Clean-up the Emergency Operations Plan” (personal conversation, July, 2003). This concern is echoed by Kramer and Bahme (1992), “Disaster Planning is one of the most important tasks that a fire chief performs, for the fire service is basically a disaster control organization” (p.2). Bachtler and Brennan (1995) follow with, “Most of the time the difference between an emergency and a disaster is the amount of planning that goes on before the emergency” (p.644). In a review of NFPA Standards, the research found that emergency planning is required in many NFPA Standards. NFPA 1, 1201, 1021 and 1600 all discuss the need for disaster planning. The clearest example is found in NFPA 1201 (2000), Standard on “Developing Fire Protection Services for the Public”:

The fire department shall have a viable plan for the protection of the community from anticipated risks associated with natural and technological emergencies that are more severe than the scale of most fires and hazardous material incidents and have the potential to exceed the resource capabilities of a particular jurisdiction (p20).

Nowhere in the research was it found or suggested that fire department emergency planning is optional. An issue that the research did find was accessibility and knowledge of existing emergency plans. This issue is summarized by Kramer and Bahme (1992), when they stated:

Although firefighters are usually the first to arrive at the scene of a calamity, their ability to cope with problems will largely depend upon the extent that advanced plans have been made, resource availability identified and key personnel trained for execution of the plans (p.2).
The matter of having and using protocols is also addressed by Hawley, Noll and Hildebrand (2002), “On-scene response operations must always be based upon a structured and standardized system of protocols and procedures” (p.134). These positions were found quite regularly in the research from respected text and NFPA standards. In a discussion with the Milwaukee County Emergency Management Coordinator, Carl Stenbol, he stated that one of the services that his department provides to cities like Wauwatosa is help in developing and updating the various Emergency Operations Plans (personal conversation, September 2003). In the Milwaukee county plans, a great deal of emphasis is placed on mutual aid response. Kramer and Bahme (1992) warned, “Mutual Aid may not always be available, for afflicted communities may be so occupied with their own problems that little or no aid may be extended the time it is most needed” (p.118). They continued, “Mutual Aid is not without problems, especially in matters of communication” (p. 118). This caution is well noted in the research and seems to point to a fundamental concern. The use of mutual aid generally focuses resources on incidents in a given community. When a disaster strikes, will other neighboring communities need the same resources? Kramer and Bahme (1992) continue this concern:

In many locations it may be necessary at times to supplement firefighting resources with additional resources that far exceed those available in neighboring communities. In such cases, it is beneficial to have an established Mutual Aid relationship on a statewide or regional basis (p.111).

When asked how the Wauwatosa Fire Department could better respond to large non-fire incidents involving large regional responses, Chief Dean Redman stated, “We need to move ahead and adopt the Mutual Aid Box Alarm System (MABAS) that is currently used in a large part of northern Illinois and southern Wisconsin” (personal conversation, September 2003).
Chief Redman continued to explain, “The MABAS concept is currently being proposed to the Milwaukee County Fire Chiefs and I expect its approval for the county” (personal conversation, September 2003).

Summary

This literature review uncovered very little new information in the area of response to large non-fire incidents. The review reinforced many known principals of emergency response and revealed fire service standards. It is the actual local application of these principals and standards that this paper will examine. The literature demonstrates the need for response preparations and the lessons learned from other communities. Many of the various types of large response to large non-fire incidents with one significant exception that may have an important impact on this research project.

PROCEDURES

The research was constructed using action research based on analyzing data collection. The research procedures used in preparing this paper included literature review, personal interviews and surveys. This research explored existing material on the subjects of response to large non-fire incidents and additionally, disasters, in an attempt to advise the leadership of the Wauwatosa Fire Department on how to improve the response to large non-fire incidents. This advisement would incorporate concepts of community risk reduction. The research was also intended to discover if the current methods for response to large non-fire incidents in the Wauwatosa Fire Department are effective. The research examined methods that make use of citizens within the community for the interest of supporting or assisting the fire department during a large non-fire incident or disaster.
Literature Review

Initial research for this paper began at the National Fire Academy Learning Resource Center in Emmitsburg, Maryland in April 2002, to review technical reports, articles in publications, journals, previous Executive Fire Officer applied research projects and fire service books and literature. This material was reviewed for information on fire department response to large non-fire incidents and disasters. Information was sought on national standards effecting fire service response to disasters, investigation of various types of disasters commonly expected, lessons learned from past disasters and current effective methods in use to deliver response excellence. The research also looked for methods where citizens can get involved with assisting the responders during such emergencies. An on-line literature review was conducted to determine what resources are available via this media. The Internet offered information primarily consisting of fire department web sites, emergency management resources and other matching sites via search engines.

Interview

An important component to the procedure was open interviews held with key personnel from the Wauwatosa Fire Department, outside fire department personnel and the Coordinator of Emergency Management for Milwaukee County. Assistant Fire Chief, Michael Anton, who is responsible for all operations of the Wauwatosa Fire Department, was interviewed for his perspective on current response and future response issues. Chief Anton is the Operations Officer for the department and responsible for development of any protocols and procedures. Assistant Fire Chief, Jeffrey Hevey, was also interviewed and asked about his perspective on the effectiveness of the current system as it relates to the administrative side of department response and recovery and his comments on changing the existing system. Both Assistant Chiefs’ were
interviewed in August of 2003. The Fire Chief for the City of Wauwatosa, Mr. Dean Redman was also interviewed. Chief Redman was questioned on a wide variety of matters pertaining to this study. This interview focused on his perspective of the effectiveness of the current response procedures and his thoughts on future improvements to the way the fire department prepares and responds to large non-fire incidents. This interview was conducted in November of 2002. A personal interview was conducted with the Fire Chief for the City of Oak Creek, Wisconsin. This interview intended to discover the prospective a Milwaukee County Fire Chief that had recently faced a significant incident that tested the county mutual aid system. Chief Hammernik’s department responded to a large, fast moving, multiple front grass fire and simultaneous apartment building fire, which resulted in extensive losses. The response of all Milwaukee County Fire Departments and some out of County departments were requested.

Survey

In effort to truly determine whether current protocols are effective for responding to large non-fire incidents and to help answer all research questions, a survey was developed for distribution to all Captains and Chief Officers. These are the people that will be in command during the initial stages of a large non-fire response. Survey responses would be used to help answer the four research questions. This survey asked eight questions. The complete survey instrument is contained in Appendix A. To answer research question #1, survey question 3 was developed. To answer research question #2, survey questions 1 and 2 were developed. To answer research question #3, survey questions 4, 5, 6 and 7 were developed. To answer research question #4, survey question 8 was developed. Surveys were given to each of the Wauwatosa Fire Department Captains and Chief Officers the first week of August 2003. Of the 13 surveys handed out, 12 were returned for a 92% return rate. The data from the surveys was compiled,
tabulated and analyzed for percentages, common themes, and insightful comments and then summarized. A second survey was developed for area fire department Training Officers. This group was chosen for their access and knowledge of their department procedures and capabilities. The departments selected for this survey represent all of the Milwaukee County fire departments and a small sample of outside county departments that may be asked to respond into the city of Wauwatosa in the event of a large non-fire incident. Survey responses would be used to help answer the four research questions. The outside department survey asked six questions. The complete survey instrument is contained in Appendix B. To answer research question #1, survey question 3 was developed. To answer research question #2, survey questions 3 and 6 were developed. To answer research question #3, survey questions 1 and 4 were developed. To answer research question #4, survey question 5 was developed. Surveys were sent by email during the week of August 25, 2003. Of the 18 surveys handed out, 16 were returned for an 89% return rate. The data from all surveys was compiled, tabulated and analyzed for percentages, common themes, and insightful comments and then summarized.

**Limitations**

While survey response was considered accurate and insightful for the most part, the possibility exists that respondents may have answered what they felt were correct answers verses what they would actually do. What this means is that an organization may have rules but they are not always known or acted upon. This condition may cause a respondent to feel as though he/she is being tested and therefore, gives an answer that he/she thinks the survey author wants to hear verses what actually happens. It is believed that in some minor instances, this may have been true on the inside department Command Officers Survey.
Readers of this research paper should be aware that NFPA 1600 (2000 ed.), Standard on “Disaster/Emergency Management and Business Continuity” is scheduled for revision and is due to be republished in early 2004. This Standard played an important role in the research.

**Definitions**

CERT: Community Emergency Response Team  
FEMA: The Federal Emergency Management Agency  
I.C.S.: The Incident Command System  
MABAS: Mutual Aid Box Alarm System

**RESULTS**

The results of this research project came from an assessment of data published from National Fire Academy Executive Fire Officer Applied Research Projects, journal articles, periodicals, texts, two surveys, one of fire department Captains and Chief Officers and a second survey of Mutual Aid Officers. Personal interviews were also conducted.

**Survey Results**

The Internal Command Officers Survey was developed to help gain the perspective of the individuals that will actually command the responding units of the Wauwatosa Fire Department. This survey would help answer the research questions at least from the perspective of the actual fire department responders. A copy of the survey can be found in Appendix A. A summary of the survey appears in Appendix C. The surveys summarized results are as follows:

Question 1: Regarding the adequacy of current department resources to respond to a large non-fire incident, 83 percent of the fire officers feel resources are inadequate, with the remaining 17 percent feeling resources are adequate.
Question 2: 75 percent of the fire officers recommend changes to the current way the department responds to large non-fire incidents. The most interesting fact regarding this question is the wide variance of the responses. Generally the respondents did not comment on physical changes. The comments centered on developing policy and training on these new policies. It became quite obvious that many respondents were unaware of any existing plans.

Question 3: This question asked the respondent to list what they considered to be the most likely large non-fire incidents that may occur in the City of Wauwatosa. The respondents are all senior officers with collectively over 250 years of experience responding to all types of calls in the city. There responses were quite consistent in terms of community threat. A summary of the responses are as follows:

- Hazardous Materials Releases
- Flooding/Swift Water
- Transportation/Release
- Mass Casualty
- Storms/Wind/Tornado
- Aircraft down

Question 4: 75 percent of respondents where unaware of existing plans relating to fire department responses during large non-fire incidents. While this is a majority of respondents, one must realize that 25 percent of the Captains or Commanders are not aware of any plans. The respondents listed a variance of what they felt were existing plans. Many listed the County Annex’s, but in most cases only one or two of the 12 Annex’s were mentioned. Some commented on certain existing Department Standard Operating Guidelines, even though there are no specific guidelines for all but swift water emergencies. Another common response was “I would contact dispatch and they would know whom to call”. Again, these responses came from people who would be the highest-ranking member on a given response.
Question 5: 75 percent of the respondents did not believe they had quick access to non-conventional resources during large non-fire incidents. This statistic would show that only one in four of the Commanders are knowledgeable on allocating non-conventional resources.

Question 6: 50 percent of the respondents felt the current mutual aid system is adequate to supply needed resources during a large non-fire incident.

Question 7: This question brought a large variation of responses regarding how an officer would access non-conventional resources if needed. The most interesting statistic was that only four commanders out of the twelve that responded to the survey said that they would contact Emergency Management, the agency designated as the main resource facilitator. The consistent replies were as follows: You may want to put bullets in front of these

- Go to the emergency phone list
- Call dispatch and request
- Call neighboring departments
- Contact private companies
- Use T.V. and Radio to express needs

Question 8: 100 percent of the respondents felt that the public should be educated on how to react during a large non-fire incident.

The Mutual Aid Officers survey was developed to help the research understand what neighboring departments are currently doing regarding response to large non-fire incidents and to try to understand what would be expected from these communities if they had a large non-fire incident. An additional purpose to this survey was to benefit from the collective knowledge of this group of individuals. A copy of the survey can be found in Appendix B. Compilation of the survey appears in Appendix D. The surveys summarized results are as follows:
Question 1: This question was designed to discover what other area departments are doing regarding protocols for response to large non-fire incidents. As far as departments that have specific protocol for large non-fire incidents, only one had a comprehensive list of protocols. As for the other fifteen departments, they had anywhere from none to five. The most common protocols where for mass casualty, and hazardous materials calls.

Question 2: The respondents provided consistent answers for what they felt were the most common types of large non-fire incidents that their fire departments would respond to. The respondents offered the following:

- Mass Casualty
- Explosions
- Building Collapses
- Water/Flooding
- Storm/Wind/Tornado
- Transportation/Release
- Heath related
- Hazardous Materials Release

Question 3: The respondents offered many comments on ideas to improve the response of area forces to large non-fire incidents. The most commonly mentioned idea was the implementation of the MABAS system that is currently being studied by the Milwaukee County Fire Chief. In addition to that suggestion, the most common responses are listed below:

- Develop Disaster Plans
- Perform Risk Analysis
- More Practice/Training
- Develop Protocols
- Communication Frequencies
- Review the current Alarm System
- Accountability Systems
- Incident Command Training

Question 4: This question dealt with how easily the respondent’s community can access non-fire resources when needed. The respondents seem to provide a list of what resources were available and many seem to feel that a large hardware store for example, would be able to meet
most of their needs. The other resource commonly mentioned was the use of the local Department of Public Works. Some communities referred to the County Resource List, but most did not seem to even understand that a county resource list existed. For the most part, most communities have very little if anything, as far as resource list are concerned and some of those that did, stated that their lists had not been updated.

Question 5: This question asked the respondents if they had any programs that involved training the general public in assisting the fire department for large incidents. The closest any community came to having some kind of program was a community that trained the Boy Scouts for emergency preparedness. One department was aware of the FEMA CERT program and was considering its implementation. Other than those two responses, no community had any citizen programs involving training for emergencies.

Question 6: This question was an open-ended question allowing the respondents a chance to list what they believe are the greatest response problem their department would face during a large non-fire incident. Many of the comment were quite similar. The most common anticipated problems dealt with the lack of knowledge of existing resources such as the Milwaukee County Annex’s and a lack of training. The other comment made by many was the high probability that many neighboring communities would compete for the same resources during a disaster. The issue of adequate manpower was discussed by many as well. In addition, multiple respondents listed effective use of the Incident Command System, Accountability and Communications systems as concerns.

**Personal Interviews**

The personal interviews provided information from key leaders of the Wauwatosa Fire Department, the Director of Emergency Management for Milwaukee County and the Fire Chief
of the City of Oak Creek Wisconsin. They provided valuable positions on fundamental aspects and application of this research.

When questioned on what he felt were the most common large non-fire incidents to potentially strike Wauwatosa, Chief Redman responded (personal conversation, August 2003), “Weather is the number one concern of mine”. Chief Redman explained that it is not the normal weather occurrences but the major weather swings that City of Wauwatosa is subjected to, for example, “Flooding and the associated problems such as swift water rescue, high winds and tornadoes and the possibilities of ice storms are all conceivable occurrences’. As for our current response to large non-fire incidents and ways to improve, Chief Redman said, “We need a better interpretation of specific types of responses. The key thing is to broaden coverage standards with Mutual Aid service.” The Chief expressed his concern for a situation that would have many neighboring departments all needing the same mutual aid service and none being available. He stated “it would be easy for a situation where we call our neighbors and then their stations become empty and then they need responses in their community” (personal conversation, August 2003). The issue of communications was brought up by the Chief as an example of an area that needs improvement. The Chief described what he feels is a major concern for responding to large incidents. “When we have small incidents, which is what we mostly have, the system works fine. During a large incident it doesn’t work well”, the Chief continued, “When incidents cover more that one jurisdiction and many agencies, there must be a plan for good interoperability.” The Chief was very outspoken on one other issue regarding improvement, he stated that, “Training, we are kind-of behind, we need to train on tying the whole emergency management program together, we have had tabletops in the past and they have not gone that well.” The Chief was also questioned on the department’s ability to gain access to non-fire department resources. Chief
Redman made clear, “We have access, but it is not quick or efficient.” When asked for his comments on training and using trained citizens during large non-fire incidents, Chief Redman said “The FEMA CERT program is an excellent idea if done right”. He explained that there are large numbers of citizens that want to help during a large emergency. Chief Redman felt, “it would be better to identify proper jobs that could be filled by civilians before an emergency, so they can be assigned during one.” He added, “They need to come with the right tools.” Probably the most useful to the research were Chief Redman’s comments on the Wauwatosa Emergency Operations Plan. Chief Redman stated, “Our plans are silent on specifically how the fire department will operate”, and he explained that the plans are based on the assumption that the fire department has guidelines on individual types of known risks, which is not true. Chief Redman said, “We would follow or policies and then go to the County plans such as the Annex’s for needed resources.” He continued that, “We should have one page descriptions on specific types of incidents and then we go from there.” Chief Redman completed the interview by stating, “We need to bring people together and develop the appropriate plans, then, don’t just have a plan, practice the plan and insure everyone knows it” (personal conversation, August 2003).

To help answer the research questions, the two Assistant Fire Chiefs of the Wauwatosa Fire Department were interviewed. Assistant Chief Michael Anton explained his view of current capabilities of the department for responding to large non-fire incidents (personal conversation, August 2003), “Our current system of response has worked well and I would expect that to continue.” Assistant Chief Hevey (personal communication November 26, 2002), did not agree, “We need to have more specific plans.” Assistant Chief Hevey discussed new approaches to responding to large non-fire incidents (personal conversation, August 2003), “I like the idea of
using resources from greater distances as to not draw all the needed resources from the same pool of departments” Chief Anton also discussed past successes. Assistant Chief Anton (personal conversation, August 2003) stated, “Our response to the two major floods was handled with success using area departments.” Chief Anton also emphasized the need to “better train on the current plans that are in place before trying to develop new plans”. Assistant Chief Hevey agreed with a comment that Chief Redman had made, he stated, “The FEMA CERT Program is a great idea for using area residents during a time of need, they could be of great assistance” (personal conversation, August 2003).

Chief Hammernik of the Oak Creek, Wisconsin Fire Department is the area Fire Chief with the most current experience managing a large multi-agency disaster. When asked about his greatest problems and how they effected his incident, Chief Hammernik stated (personal conversation, August 2003), “The lack of resources initially was very difficult,” he continued, “Communication issues were equally troublesome.” He did explain that familiarization with the Incident Command System by all responding agencies was extremely helpful in getting unfamiliar groups to work effectively. Chief Hammernik also discussed the likely addition of the MABAS System to the County. The Chief said (personal conversation, August 2003), “I think the use of MASAB will be good for the County department.” He also continued to say (personal conversation, August 2003), “I think the use of MABAS will force our county to standardize more of our operating components.” During evaluation of the Mutual Aid Officer Survey, it was found that Oak Creek was the only department with specific fire department plans for specific possible large incidents. When asked about this, Chief Hammernik explained (personal conversation, August 2003), “Our operational plans list 22 different possible incident types that
we may face and the plan designates who will be in charge and gives a one page check sheet for the Incident Commander.”

Because of his important role in Emergency Management, a personal interview with Carl Stenbol, Coordinator of Emergency Management for Milwaukee County was conducted. This individual was interviewed because of his important role in coordinating all emergency management issues with the City of Wauwatosa. Mr. Stenbol was asked about the role his department plays in responding to large non-fire incidents in the City of Wauwatosa. He stated, “The main role of Emergency Management is resource allocation, emergency planning and preparation” (personal conversation, September 2003). He was asked how he felt emergency response could be improved. He quickly pointed out that the County Annex’s needed updating. He also stated, “We need to pay particular attention to the resource Annex’s, they become out of date quite quickly” (personal conversation, September 2003). Interestingly, Mr. Stenbol did not feel that practice of the plans was called for at this time, he stated, “Our exercise schedule has been very aggressive in Milwaukee County, and everyone has been doing what they can” (personal conversation, September, 2003). The Coordinator was also asked about his knowledge of a citizens program called CERT. This is a program that was discovered during the literature review on the Federal Emergency Management Agencies web site. Mr. Stenbol explained, “The CERT teams are a national program and are just starting in the area, we plan on beginning our training soon with our established groups, such as the Red Cross and Salvation Army” (personal conversation, September 2003).

**Question #1**

What large non-fire incidents are likely to effect the operations of the Wauwatosa Fire Department? The research found no disagreement on the potential for large non-fire incident
potential in the City of Wauwatosa. Weather extremes pose the greatest known threat to the community. There is history of severe weather in Wauwatosa and around the Wauwatosa area. The condition with the highest probability would be flooding and the results of flooding. The city has had large flooding incidents in the recent past. The effects of flooding was found to also be of concern, swift water rescues have been needed each time major flooding hit the city during 1997 and 1998. Other weather extremes would include high winds and tornadoes. While the city has been hit with damaging windstorms in the past, there is no current history of tornadoes strikes. Having said this, a review of the NOAA National Weather Service web-site (http://www.crh.noaa.gov/mkx/climatarchive.htm), September, 2003), found that the occurrence of tornadoes in the state of Wisconsin is quite common. Chief Redman expressed his concern (personal conversation, August 2003) “Weather is the number one concern of mine”. This was backed-up by the survey results completed by the Chief Officers and Captains of the department. Other concerns that will effect the department are those from hazardous materials releases. Mass casualty incidents are expected to be a reality over time in the City of Wauwatosa. Another less likely but possible event would be health incidents. Terrorism would also be a likely possibility that needs to be planned for. Issues relating to building collapse are possible with many of the scenarios.

**Question #2**

How can response to large non-fire incidents be improved? The research found that the Wauwatosa Fire Department does not have specific plans to respond to various large non-fire incidents, even though the possibility of these events was determined. NFPA 1600, *Standard on Disaster/Emergency and Business Continuity Programs* (2000 edition), clearly states, “The entity shall implement a strategy to eliminate hazards or mitigate the effects of hazard that can
not be eliminated” (p.5). Implementation of specific plans and then training on those plans was clearly found as a significant response to this research question. Improving the mutual aid system with a program such as the MABAS System was constantly recommended in the research. Attention to other interagency programs was also stressed. Outside of creating specific plans for response, the training and practicing of such plans was supported by the research.

Question #3

What external operational resources exist and how can they be more efficiently accessed? The Wauwatosa Fire Department currently does not hold a list of outside resource availability. The keeper of a comprehensive list of resources is the Milwaukee County Office of Emergency Management. This list is also referred to as Milwaukee County Annex C Resources Management. Annex C is a comprehensive list of almost any resources that may be needed by the fire department in an emergency. In the research it was noted that some departments keep their own resource list. The Wauwatosa Fire department does not. The research found that information like Annex C is unknown to many persons inside and outside of the department. Training would need to be conducted to introduce and familiarize personnel.

Question #4

What roles could the citizens of Wauwatosa play in improving response to large non-fire incidents in the city of Wauwatosa? The research found primarily one program sponsored by the government. This program is referred to as the CERT Program. The research did not find any other comprehensive program for citizen involvement. The research did find some programs with similar names but were primarily identical to the FEMA program. One interesting note is that the CERT Program is generally found in states with a history of large non-fire incidents. Chief Redman explained (personal conversation, August 2003), “There are large numbers of
citizens that want to help during an emergency.” Carl Stenbol of Emergency Management agrees (personal conversation, August 2003), with the Chief that a CERT program would be helpful (personal conversation, August 2003), “CERT programs can be very helpful to the distressed community.”

**Summary of Results**

Understanding what large non-fire incidents may occur in the City of Wauwatosa is predictable, yet not known. Instruments exist to determine the types of incidents that may occur. The research found that response plans are required and that plans improve the likelihood of a positive outcome at an emergency. A listing of external operational resources exists, but it is not widely known or available to Commanders in the Wauwatosa Fire Department. Any new protocols need to be published, accessible, training provided and regularly reviewed. Lastly, a successful Federal Program does exist for training citizens on how to assist their local responders during disasters. This program needs to be pursued.

**DISCUSSION**

In its publication Standard 1201, *Developing Fire Protection Services for the Public*, (NFPA, 2000 edition), it is clearly stated, “Comprehensive plans shall be prepared in writing describing the fire department role and providing for management and coordination of all public and private services called into action in natural and technological (man-made) disasters” (p.6). This standard makes it clear; fire departments are expected to be the primary coordinator during disasters. During the research for this project, an attitude among many fire department personnel was “it won’t happen here”. This was refuted by Kramer and Bahme, (1992), “Hardly a day passes that a disaster endangering many lives and much property does not occur somewhere in the United States” (p.1). There was no finding in the research that would suggest fire
departments do not need to be prepared for large non-fire incidents. From here the research began.

In the survey instrument given to Internal Command Officers, 83% of the respondents felt that current department resources were not adequate to respond to large non-fire incidents. Of those same respondents, 75% recommended that the department change the way it responds to large non-fire incidents. The research found no specific formulas or guidelines that gave requirements for responses for large non-fire incidents. This is most likely explained by the enormous variance in the types and significance of responses. Coleman and Granito (1988), stated, "Increasingly, departments face the responsibility of protecting large and even high-rise structures" (p.343). These incidents show why all departments be prepared to move smoothly from routine response mode to one requiring large-scale, multi-agency incident management” (p.321). The research found only one fire department in Milwaukee County, the City of Oak Creek, which has actually planned for specific types of events. This type of pre-planning would seem to be the only way to begin to estimate expected needed resources in the absence of some kind of nationally accepted standard of response. What needs to be remembered is that the response capability of the Wauwatosa Fire Department extends beyond its own resources, the resources of the entire mutual aid group needs to be considered. Assistant Chief Mike Anton of the Wauwatosa Fire Department stated, “The current Mutual Aid System has served the City of Wauwatosa well for many years and I expect that it is sufficient to serve future needs” (personal conversation, August 2003). The resources of the mutual aid group if placed into action quickly enough may negate the need for larger responses. What is interesting is the finding of Kramer and Bahme (1992), “No matter how great the threatened danger, if there is warning and available forces are sufficient to act quickly, it might not result in a disaster” (p.3). In the survey of Mutual
Aid Officers many respondents commented on the problem of multi-agency responders knowing proper procedures, yet not using them when needed. The procedures mentioned as deficient were proper Incident Command and Accountability procedures. When a large non-fire incident strikes, it may be isolated to one area such as a mass casualty accident or it may stretch through many communities. Planning for a confined area will most likely be controlled with normal available resources and mutual aid. The incident that covers an area that extends through neighboring communities is the type of incident that will adversely affect the mutual aid system as it currently stands. In the research, it was Wauwatosa Chief Redman that stated concern for this type of condition. “The key thing is to broaden coverage standards with mutual aid service.” The Chief expressed his concern for a situation that would have many neighboring departments all needing the same mutual aid service and none being available. He stated (personal conversation, August 2003), it would be easy for a situation in which we call our neighbors and then their stations become empty and then they need responses in their community.” This problem can be eliminated be adopting the Mutual Aid Box Alarm System (MABAS). The Chief explained that the Milwaukee County Fire Chiefs are currently exploring the MABAS system to replace the more limited current County Multiple Alarm System. Chief Redman had this comment regarding mutual aid response (personal, conversation August 2003), “MABAS would allow us to easily get resources from outside of the effected area, this is something we can’t do right now.”

Large non-fire incidents can cover a very broad spectrum of occurrences. Bachtler and Brennan (1995) found “The fire service today is involved in every conceivable type of rescue incident” (p.658). Coleman and Granito (1988) add:

Although local officials may view disasters as too rare to be worth the investment in time and energy, survey data indicate otherwise:
1. Over half of the jurisdictions to a 1992 survey conducted by the ICMA had experienced a disaster in the last 12 years.

2. In the same survey, local governments reported $16 billion in property loses, 2,490 deaths, and 9,161 injuries from disasters since 1970.

3. In an earlier survey 40 percent of the fire chiefs indicated that a disaster had caused activation of their disaster plan. Winter blizzards, water disasters, windstorms, and hazardous material incidents were the primary disasters that caused the local plan to be activated.

Clearly, local governments are at risk and can expect disaster to strike sooner than later” (p.8)

The respondents who represented experienced fire officers provided consistent replies of what they felt were likely large non-fire incidents that may occur. The research found no disagreement among the expectations of possible large non-fire incidents between the study results and the findings of others. When questioned on what he felt were the most common large non-fire incidents to potentially strike Wauwatosa, Chief Redman responded (personal conversation, August 2003), “Weather is the number one concern of mine”. Chief Redman explained that it is not the normal weather occurrences but the major weather swings that City of Wauwatosa is subjected to, for example he stated (personal conversation, August 2003), “Flooding and the associated problems such as swift water rescue, high winds and tornadoes and the possibilities of ice storms are all conceivable occurrences”.

The research discovered a large amount if information regarding specific types of large non-fire incidents. The survey of Internal Command Officers, established concern for several specific large non-fire incidents that they believed were likely to occur in the City of Wauwatosa.
Other than weather related incidents, almost all respondents listed hazardous materials/terrorism releases. The research also found this type of incident likely. Hawley, Noll and Hildebrand (2002) stated:

Given the current trends in terrorism, preparation for an event can seem somewhat difficult, as scenarios are varied and different. This may seem like a daunting task, but there is a great deal that public safety agencies can do to identify potential targets and prepare for an event (p.17).

Bachtler and Brennan (1995) also expressed this importance, “Regardless of the level of hazardous material response to be provided within a community, fire service executives must recognize that hazardous materials and environmental planning, prevention, training and response issues are inherent elements of a comprehensive public safety program”(p.689). The findings continued to parallel in recognizing building collapse as a likely large non-fire response. Assistant Chief Michael Anton explained (personal conversation, August 2003), “We have a capable force in the services of the Milwaukee HURT Team for response to any kind of collapse or other advanced technical rescue”, he added, “This would be in addition to our own Technical Rescue Team.” The research also found that respondents to the surveys both inside and outside of the department seem to focus on realistic and historical incidents as possible large non-fire incidents that should be expected to strike the Wauwatosa area. It was the research that took a different view. In the research, NFPA 1600 (2000 Edition), Disaster/Emergency Management and Business Continuity Programs, this standard states, “The hazard identification should include but is not limited to, the following types of potential hazards:

(4) Natural events
   a. Drought           b. Fire           c. Avalanche
e. Snow/ice/hail e. Tsunami f. Windstorm
h. Hurricane h. Biological i. Extreme heat/cold
k. Flood k. Earthquake l. Volcanic eruption
n. Tornado n. Landslide o. Dust/sand storm
q. Lightning storm

(5) Technical events

d. Structural collapse e. Power failure f. Extreme air
g. Radiological event h. Dam/levee failure i. Fuel shortage
j. Strike k. Business interruption l. Financial collapse
m. Communication

(6) Human events

a. Economic b. General strike c. Terrorism
d. Sabotage e. Hostage f. Civil unrest
g. Enemy attack h. Arson i. Enemy attack
j. Special events

(p.8)

The use of an effective Incident Management System was found in the research to be of significant importance during a large non-fire incident. It was Coleman and Granito (1988) that stated, “A fire departments disaster response should be based on an effective Incident Command System” (p.336). This was backed up by the position of Hawley, Noll and Hildebrand (2002) when they said, “A critical benchmark in the operational success of the response to both Hazardous Materials and Terrorism events is the appropriate use of the Incident Command
System” (p.106). An interesting observation is that while the Internal Command Officers in their survey did not mention the I.C.S. as an area that need improvement, the Mutual Aid Officers did. This divergence of view is hard to understand in the research, but may have to do more with the overall roles and responsibilities of one group verses the other.

The research looked at ways that citizens could interact better with the fire department and be prepared to assist the fire department when disasters strike. What the research found was interesting. When asked for his comments on training and using trained citizen during large non-fire incidents, Chief Redman said (personal conversation, August 2003), “The FEMA CERT program is an excellent idea if done right”. He explained that there are large numbers of citizens that want to help during a large emergency. Chief Redman felt (personal conversation, August 2003), “it would be better to identify proper jobs that could be filled by civilians before an emergency, so they can be assigned during one”, he added, (personal conversation, August 2003), “They need to come with the right tools.” The Director of Emergency Management for Milwaukee County, Carl Stenbol, discusses his support for the CERT Program also (personal conversation, September 2003), he stated, “The CERT program is a good program and it is just getting started in this area”. In the survey of Wauwatosa Fire Department Commanders, 100% of the respondents agree that some kind of a fire department/citizen partnership would be a good idea. When looking at other departments in the area that train citizens, the research found no formal programs in place. There would seem to be no disagreement between the research and the results, that citizen training could be useful to a fire department to improve its ability to respond to large non-fire incidents.

All of the research and the results of this project will be worthless without a foundation of specific plans and procedures for department personnel to start their response to large non-fire
incidents from. To have effective procedures one must start with planning. Coleman and Granito (1988) state quite clearly, “It is the responsibility of the Fire Chief to promote the importance of emergency planning” (p330). When interviewed, Wauwatosa Fire Chief Dean Redman pointed out that when he arrived in Wauwatosa in 1996, one of his fire priorities was to “Clean-up the Emergency Operations Plan” (personal conversation, July, 2003). Kramer and Bahme (1992), “Disaster Planning is one of the most important tasks that a fire chief performs, for the fire service is basically a disaster control organization” (p.2). The research clearly supported the need for proper planning; the results of the Fire Officers indicated general confusion and lack of knowledge. One out of four Command officers is not aware of any plans for responding to large non-fire incidents. The matter of having and using protocols is also addressed by Hawley, Noll and Hildebrand (2002), “On-scene response operations must always be based upon a structured and standardized system of protocols and procedures” (p.134). This would indicate a need for the development of specific response plans and training to assure all of those expected to carry out the plan are knowledgeable in their content.

Authors Interpretation

There are approximately fourteen different persons that could find themselves leading the Wauwatosa Fire Department to a large non-fire incident. The study results found great separation of knowledge from one person to the next. The study also found this same separation of knowledge in many of the area departments that would be called on to respond into the City of Wauwatosa during a large non-fire incident. There is help available but access to that help is not always known. Effective support systems are needed to effectively respond to a large non-fire incident. These systems include the Incident Command System, accountability system and resources listings, not to mention all of the other necessary support personnel. There are planning
instruments available that a fire department can use to predict and plan for specific types of large non-fire incidents. These plans should be well distributed, trained on and practiced. Responders need to know where and how to access resources lists to more effectively deal with excessive or unusual needs.

The practice of informing the public and training the public to be of assistance to the fire department during a large non-fire incident is not common in the area around the City of Wauwatosa, but it has been very successful in many other areas of the country. By following the CERT model developed by FEMA, the city of Wauwatosa could significantly improve their response to large non-fire incidents

**Organizational Implication**

The Wauwatosa Fire Department can improve the way it responds to large non-fire incidents by planning and preparing for many possible types of incidents. Better planning will likely result in safer operations for responding personnel and a higher degree of effectiveness at the scene. By training and using citizens during emergencies, the overall goal of the department will be enhanced. Cooperative ventures with the public may also bring an improved level of support to the fire department from within the community.

**RECOMMENDATIONS**

The Wauwatosa Fire Department needs to begin the processes of planning for large non-fire incidents. The Fire department Emergency Operations Plan is silent when it comes to the actual response of the fire department to large non-fire incidents. There is a belief by some officers of the department that a plan exists that will lead them through disasters; this is untrue. To address this problem, The Wauwatosa Fire Department needs to begin by following the
recommendations of the NFPA in their Standard 1600 *Disaster/Emergency Management and Business Continuity Programs* (2000 Edition), by identifying the possible and likely disasters that may occur in the City of Wauwatosa. Once the disaster potentials have been identified, specific plans need to be assembled to address proper response and related actions. These incident specific plans need to be relatively brief and easily accessible to responding personnel and Wauwatosa Dispatchers.

During development of response plans, an emphasis needs to be placed on associated practices. Training and knowledge of the existing Incident Command System needs to be expanded. The current system used is the appropriate system, but additional training needs to focus on the larger incidents, which are often overlooked during training. Attention needs to be placed on the different components that are needed when the Incident Command System is expanded for large incidents. The existing personnel accountability system also needs to be stressed for any of the disaster type alarms.

When plans and practices have been developed and made available, training programs will need to be developed. This training needs to involve all members of the department and any agencies that would be expected to assist. Most importantly, the dispatchers and other closely related departments such as the Wauwatosa Police Department and the Wauwatosa Department of Public Works need to be included. During this training, members need to become familiar with the various Annex’s that are provided by the Milwaukee County Emergency Management Office. The Annex’s cannot be placed on a shelf and forgotten. These Annex’s are the groundwork of the city’s emergency response plan. Once training has been developed and provided, annual tabletop and functional exercises will need to be held. It is through these exercises that the response to large non-fire incidents will be continually revised and
institutionalized. The communications within the county were identified as not consistent and reliable. With the implementation of new radios in the fall of 2003, the department will need to make a concerted effort to develop plans for multi-agency operations involving departments with different radio capabilities and frequencies. This effort could be eased by adopting and utilizing the designated radio frequencies as outlined in the MABAS System.

The Wauwatosa Fire Department could become one of the first fire departments in the State of Wisconsin to adopt the FEMA CERT Program. This program would utilize citizens within the community that are able and want to assist the fire department in performing non-dangerous tasks during a large non-fire incident. As pointed out by Chief Redman, there are people in the community that want to help during an emergency, now it is our job to develop a program that can use this interest to benefit both the department and the community as a whole. This program could be integrated with the dozens of neighborhood associations that the City of Wauwatosa is already well known for.

These recommendations address a critical need within the Wauwatosa Fire Department. By adopting these recommendations, the overall capabilities of the department will be improved. The protocols that will be developed will be designed to help the department in many different applications. As the research found, there are very few fire departments in the Wauwatosa area and well outside the area that are not prepared to respond to large non-fire incidents. This research will aid not only the Wauwatosa Fire Department, but it will also aid future readers of other departments looking to improve their response to large non-fire incidents.
REFERENCES

Saddle Brook, New Jersey: Pennwell.

Washington, D.C.: International City Management Association


Quincy, Massachusetts: National Fire Protection Association


I am working on a research project for the National Fire Academy that will evaluate the response abilities of our department to large non-fire incidents. I am interested in collecting and analyzing the perspective of Captains and Chief Officers of the Wauwatosa Fire Department. Please answer the survey questions listed below.

1. Are current department resources (apparatus, equipment and personnel) adequate to respond to large non-fire incidents (tornados, floods etc.) within the City of Wauwatosa?
   □ Yes
   □ No

2. Would you recommend changes in the way the Wauwatosa Fire Department responds to large non-fire incidents?
   □ Yes
   □ No
   If yes, please give some examples.
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________

3. What type of large non-fire incident do you consider to be the most likely to occur in Wauwatosa?
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________

4. Are you aware of any existing plans relating to fire department responses during large non-fire incidents?
   □ Yes
   □ No
If yes to the previous question, please list.
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

5. Do you feel that you have quick access to non conventional resources (cranes, lumber, pumps, etc.) during a large non-fire incident?

☐ Yes
☐ No

6. Do you feel the current mutual aid system is adequate to supply needed resources during a large non-fire incident?

☐ Yes
☐ No

7. How would you access non conventional resources if needed in an emergency?
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

8. Do you feel the public should be educated on how to react during a large non-fire incidents?

☐ Yes
☐ No

Please check one:

☐ Chief Officer
☐ Captain
Appendix B

Survey for Executive Fire Officer Applied Research Project
September 2003

I am working on a research project for the National Fire Academy that will evaluate the response abilities of Wauwatosa Fire Department to large non-fire incidents. I am interested in collecting and analyzing related information from area Fire Departments. Please answer the survey questions listed below. When responding to the questions, please remember that they refer to non-fire incidents such as; floods, tornados, mass casualties, etc. Please use this attachment for your responses.

1. Does your department have any specific protocols for responding to large non-fire incidents?
   "[Click here and type response]"

2. What do you feel are the most common non-fire incidents that your department may be call upon to respond to?
   "[Click here and type response]"

3. Please list any ideas (I.C.S., preplanning, SOG’s, etc.) you feel could improve the potential response of area fire resources to large non-fire incidents.
   "[Click here and type response]"

4. Can you easily access non-fire resources such as canes, lumber or specialized equipment. If so how would you do that at an emergency scene?
   "[Click here and type response]"

5. Do you have any programs that educate or utilize the public in assisting the fire department during large non-fire incidents?
   "[Click here and type response]"

6. Please list what you believe to be the greatest response problems that you would face during a large non-fire incident in your community.
   "[Click here and type response]"
Appendix C

Survey for Executive Fire Officer Applied Research Project
August 2003

I am working on a research project for the National Fire Academy that will evaluate the response abilities of our department to large non-fire incidents. I am interested in collecting and analyzing the perspective of Captains and Chief Officers of the Wauwatosa Fire Department. Please answer the survey questions listed below.

9. Are current department resources (apparatus, equipment and personnel) adequate to respond to large non-fire incidents (tornadoes, floods etc.) within the City of Wauwatosa?
   □ Yes     17%
   □ No      83%

10. Would you recommend changes in the way the Wauwatosa Fire Department responds to large non-fire incidents?
    □ Yes     75%
    □ No      25%

   If yes, please give some examples.


11. What type of large non-fire incident do you consider to be the most likely to occur in Wauwatosa?


12. Are you aware of any existing plans relating to fire department responses during large non-fire incidents?
    □ Yes     75%
    □ No      25%
If yes to the previous question, please list.


13. Do you feel that you have quick access to non-conventional resources (cranes, lumber, pumps, etc.) during a large non-fire incident?

- □ Yes 25%
- □ No 75%

14. Do you feel the current mutual aid system is adequate to supply needed resources during a large non-fire incident?

- □ Yes 50%
- □ No 50%

15. How would you access non conventional resources if needed in an emergency?

*EXAMPLES: Dispatches, Staff, Mutual Aid, Emerg. Government, Pre-Plans, Assemble Resource Lists, T.V./Radio, Other City Departments, Support Officer, Neighboring Departments,

16. Do you feel the public should be educated on how to react during a large non-fire incidents?

- □ Yes 100%
- □ No 0%

Please check one:

- □ Chief Officer
- □ Captain
Appendix D

Survey for Executive Fire Officer Applied Research Project
September 2003

I am working on a research project for the National Fire Academy that will evaluate the response abilities of Wauwatosa Fire Department to large non-fire incidents. I am interested in collecting and analyzing related information from area Fire Departments. Please answer the survey questions listed below. When responding to the questions, please remember that they refer to non-fire incidents such as; floods, tornadoes, mass casualties, etc. Please use this attachment for your responses.

1. Does your department have any specific protocols for responding to large non-fire incidents?

*Examples: 4 no and 12 yes*

2. What do you feel are the most common non-fire incidents that your department may be called upon to respond to?

*EXAMPLES: Mass Casualty, Explosion, Haz. Mat Release, Storm/Wind/Tornado, Collapse, Water/Flood, Health Incident, Transportation*

3. Please list any ideas (I.C.S., preplanning, SOG’s, etc.) you feel could improve the potential response of area fire resources to large non-fire incidents.

*EXAMPLES: MABAS, Disaster Plans, Risk Analysis, Practice/Training, Add Protocols, Review of Alarm System, Communication Frequencies, Accountability System upgrades, Incident Command Training*

4. Can you easily access non-fire resources such as cranes, lumber or specialized equipment. If so, how would you acquire those resources at an emergency scene?


5. Do you have any programs that educate or utilize the public in assisting the fire department during large non-fire incidents?

*EXAMPLES: Only affirmative response; Boy Scout Training*
6. Please list what you believe to be the greatest response problems that you would face during a large non-fire incident in your community.

*EXAMPLES: Manpower, Lack of information on Recourses, Coordination of Activities, Access to Area, Limited Aid due to Neighbors same Condition, Communications, Accountability*
Appendix E

Listing of the Milwaukee County Emergency Operations Basic Plan Annexes:

Annex A – Direction and Control
Annex B – Communication/Warning
Annex C – Resources Management
Annex D – Law Enforcement
Annex E – Evacuation and Shelter
Annex F – Human Services
Annex G – Public Works/Engineering
Annex H – Heath, Emergency Medical & Mortuary
Annex I – Radiological Protection
Annex J – Public Information
Annex K – Fire Rescue
Annex L – Damage Assessment

Attachments:

1. Countywide Terrorism Response Plan
2. Countywide Hazmat Plan
3. HazMed Plan
Appendix F

Proposal to the Fire Chief

As a student of the National Fire Academy Executive Fire Officer Program, Deputy Fire Chief William Q. Rice of the Wauwatosa Fire Department was responsible for writing an Applied Research Project on a subject that would improve the student’s own organization (the Wauwatosa Fire Department). Students were asked to find a problem that currently affected their fire department. Deputy Chief Rice was compelled to study the issue of response to large non-fire incidents by the Wauwatosa Fire Department. The following is a formal proposal by Deputy Chief William Q. Rice to the Fire Chief of the City of Wauwatosa.

1. A request to develop a disaster planning program that would follow the recommendations of NFPA 1600 (2000 Edition) Standard on Disaster/Emergency Management and Business Continuity Programs

2. Conduct a review of the likely types of disaster that may possibly strike the City of Wauwatosa using the recommendations of NFPA 1600 (2000 Edition) Standard on Disaster/Emergency Management and Business Continuity Programs.

3. Using the aforementioned results, develop one page guides or protocols that outline responsibility, roles and operational needs for various possible large non-fire incident scenarios.
4. Using the developed plans, conduct training that will include lecture, tabletop exercises and functional exercises. This training shall include all fire department personnel, dispatchers and Police Department officials.

5. Review and update the contents of Annex C: Resource Management, to include all local resources, this updated information should be included in all training and then located in fully accessible locations.

6. Adopt the Mutual Aid Box Alarm System (MABAS) on a county-wide basis.

7. Investigate the development, presentation and management of a FEMA CERT Team for citizens of the City of Wauwatosa.