An Analysis of the Greensboro Fire Department Hazardous Materials Team's Incident Response Cost Recovery Program

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CERTIFICATION STATEMENT

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

Signed: _______________________________________
Abstract

The Greensboro Fire Department has fielded a Hazardous Materials Team since 1982 and has utilized a Hazardous Materials Incident Cost Recovery Program since 1989 when it was granted the authority to do so by an Ordinance passed by the Greensboro City Council. The figures used for cost recovery have not changed since 2005 and the program has never been evaluated in order to confirm that the figures used were conforming to figures accepted by the insurance industry.

The problem was the Greensboro Fire Department Hazardous Materials Team's Incident Response Cost Recovery Program had not been evaluated in over ten years. The purpose of this Applied Research Project was to evaluate the Incident Response Cost Recovery Program for cost effectiveness and accuracy in order to ensure that billed charges are accurate and up-to-date.

Utilizing the action research method, the following research questions were answered: (a) What are other fire department hazardous materials teams doing in the field of incident response cost recovery? (b) What can be learned from other disciplines within the fire service (technical rescue and emergency medical response) and applied to hazardous materials cost recovery? (c) What changes need to be made in order to bring the Cost Recovery Program up to date? (d) What will the budgetary impact of an updated Cost Recovery Program?

A literature review, statistical analysis and a survey instrument were used to answer the research questions. The results indicated the need for a change in the amounts charged for responding apparatus and the addition of an extra category for support apparatus. The recommendation of this research was to address these changes through the Greensboro Fire Department Administration and the Greensboro City Council in order to have them implemented properly.
## CONTENTS

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

Abstract.................................................................................................................................3

List of Tables........................................................................................................................5

Introduction...........................................................................................................................6

Background and Significance...............................................................................................7

Literature Review................................................................................................................11

Procedures..........................................................................................................................17

Results.................................................................................................................................21

Discussion...........................................................................................................................28

Recommendations..............................................................................................................34

References..........................................................................................................................39

Appendix A Hazardous Materials Teams Survey Participants.............................................42

Appendix B Greensboro Hazardous Materials Cost Recovery Ordnance .........................43

Appendix C Hazardous Materials Cost Recovery Survey Instrument................................46

Appendix D Greensboro Fire Department HazMat Incident Cost Recovery Form...............48
List of Tables

Table 1 *Hazardous Materials Incident Cost Recovery Program Information*……………………9

Table 2 *Hazardous Materials Cost Recovery Apparatus Charge Information*.........................22

Table 3 *Summary of Hazardous Materials Cost Recovery Changes*.....................................32

Table 4 *Hazardous Materials Modified Incident Cost Estimations*.......................................33
Introduction

The city of Greensboro is located in Guilford County, North Carolina in what is called the Piedmont area of the state, roughly halfway between the Atlantic Ocean in the east and Tennessee in the west. It is the third largest city in North Carolina, encompassing 132.19 square miles with a population of 273,697 as of July 1, 2011.

The Hazardous Materials Team is the Greensboro Fire Department’s oldest Special Operations Team, having gone into operation in 1982. The ability to bill for hazardous materials response was granted to the Hazardous Materials Team in 1989 through an act of the Greensboro City Council, Ordinance 89-75. This ordinance allows for the direct billing of the party responsible for a hazardous materials spill. Charges include the cost for line companies, administrative officers and the Hazardous Materials Team responding to the call on an hourly basis in addition to any materials used on the call including electronic meters, chemical protective clothing, absorbent materials, etc.

The problem was that the Greensboro Fire Department Hazardous Materials Team's Incident Response Cost Recovery Program had not been evaluated in over ten years. Over the past ten years, diesel prices, equipment prices and personnel costs have all risen and in some cases skyrocketed. The cost of diesel alone in North Carolina has risen by 231% ([www.itow.org](http://www.itow.org)). The Cost Recovery Program has not kept up with these costs and has therefore under billed for incident response, forcing the taxpayers of Greensboro to pay more of the bill as opposed to the responsible party. The purpose of this Applied Research Project was to evaluate the Incident Response Cost Recovery Program for cost effectiveness and accuracy in order to ensure that billed charges are accurate and up-to-date.
This research utilized the action research method. The action method answered the following research questions (a) What are other fire department hazardous materials teams doing in the field of incident response cost recovery? (b) What can be learned from other disciplines within the fire service (technical rescue and emergency medical response) and applied to hazardous materials cost recovery? (c) What changes need to be made in order to bring the Cost Recovery Program up to date? (d) What will the budgetary impact of an updated Cost Recovery Program?

Background and Significance

The Greensboro Fire Department’s Operating Priorities are Safety, Courtesy, Excellent Service, Efficiency and Continuous Improvement. Its Vision is “To be immediately recognized by Greensboro residents and the fire service industry as a premier, professional, progressive fire department that consistently delivers the highest quality services possible, one that maintains public trust and improves people’s quality of life by ensuring a fire safe environment, and serves as an exemplary model service delivery agency.” (Greensboro Fire Department, 2012)

In order to fulfill the mandates of the Mission and Vision Statements, the Greensboro Fire Department employs over 500 people working under the Emergency Services and Support Services Branches. The Support Services Branch includes the Planning Division, Fire and Life Safety Division, Business Office, Infrastructure, Fleet Maintenance, Technical Services, Safety and Logistics. The Emergency Services Branch is responsible for 24 fire stations, Special Operations, Emergency Management and the Training Division. (Greensboro Fire Department, 2012)

The Greensboro Fire Department provides a wide range of services to the citizens of Greensboro including fire suppression, technical rescue, hazardous materials response, fire
inspections, fire and life safety education and emergency medical first response. In addition to responding within Greensboro, the Greensboro Fire Department also fields Hazardous Materials Regional Response Team 5 and Urban Search and Rescue Team 6 for North Carolina Emergency Management. These two teams respond statewide as needed to natural and man-made disasters. All members of the Greensboro Fire Department are certified Emergency Medical Technicians. Mutual aid is provided to the surrounding areas of Guilford County through pre-established Mutual Aid Agreements.

The City of Greensboro encompasses 132.19 square miles with a population of approximately 273,697. (City of Greensboro 2012) Greensboro serves as a major transportation hub for the central part of North Carolina as it contains Piedmont Triad International Airport, Norfolk Southern Railroad, three Interstate Highways (with one more planned) and four major North Carolina State Highways. The City is a mix that ranges from heavy industry to rural pasture. This unique make-up is due to a policy of aggressive annexation from the surrounding county areas over the past several years.

The Hazardous Materials Team is comprised of Station 11 on the southeast side of Greensboro and Station 21 on the northwest side. Each Station covers approximately half the city for routine hazardous materials responses. Both Stations will respond to major hazardous materials events. All money collected through the Cost Recovery Program is returned directly to the Hazardous Materials Team as opposed to going to the City’s General Fund. The money collected is used to replace damaged or used equipment, maintenance, training and other associated costs. See Table 1 Hazardous Materials Incident Cost Recovery Program Information for costs recovered through the Cost Recovery Program since 2005.
Table 1

Hazardous Materials Incident Cost Recovery Program Information

<table>
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<th>Year</th>
<th>Billable Calls</th>
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<td>30</td>
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Since 2005, the Hazardous Materials Team has billed for 159 responses and collected almost $106,000. This is no small amount considering the current economic climate. These numbers do not take into account the rising costs of diesel fuel, personnel costs, etc. While $106,000 is certainly not a number to be taken lightly, it could be even higher by taking into account the most accurate and current figures.

The Hazardous Materials Incident Cost Recovery Program has not been evaluated in over ten years and is overdue for an examination. The Executive Analysis of Fire Service Operations in Emergency Management deals specifically with the administrative functions required to effectively run a fire department. The Hazardous Materials Incident Cost Recovery program is most definitely an administrative function that is started during the actual emergency response. The Cost Recovery Form is considered an integral part of the incident documentation, every bit as important as the Incident Narrative.

Five strategic goals have been developed by the United States Fire Administration (USFA). They are:

1. Reduce risk at the local level through prevention and mitigation.
2. Improve local planning and preparedness.
3. Improve the fire and emergency services’ capability for response to and recovery from all hazards.

4. Improve the fire and emergency services’ professional status.

5. Lead the Nation’s fire and emergency services by establishing and sustaining the USFA as a dynamic organization. (United States Fire Administration, 2010, p. 13)

This Applied Research Project assisted the USFA in meeting Goals Two through Five. Planning and preparedness (Goal Two) was enhanced by an accurate Cost Recovery Program. More accurate billing should result in more money collected. This money is returned to the Hazardous Materials Team budget, allowing for equipment purchases and training that enhanced preparedness. Response and recovery (Goal Three) was improved by the additional funding as well. Even though the money is recovered by response to hazardous materials incidents, the Hazardous Materials Team still responds to structure fires, natural disasters, etc.

Billing for service is one thing that marks a professional. Lawyers bill by the hour. Doctors bill by the visit or procedure. Plumbers and carpenters bill for materials and labor. The fire department can join the ranks of these very same professionals by billing for time and materials on incidents that may affect several jurisdictions and thousands of people. Goal Four was met by following the same billing procedures of the aforementioned professionals.

The USFA seeks to be a dynamic organization. Dynamic organizations are those that change with the times and adapt to the current climate in order to survive in an ever changing world. Those that seek to do things “like we’ve always done” generally don’t stick around too long. Billing for service is something that the emergency services community has experimented with for years in order to keep up with the times and maintain a constant influx of revenue when
other sources have diminished or disappeared entirely. Changing with the times and adapting to
new challenges met Goal 5.

The USFA (2010) also established five operational objectives. These are:

1. Reducing by 25% the loss of life of those in the age group 14 years old and below.
2. Reducing by 25% the loss of life of those in the age group 65 years old and above.
3. Reducing by 25% the loss of life of firefighters.
4. Making sure those 2,500 communities will have comprehensive multi-hazard risk
   reduction plans led by or including local fire services.
5. Appropriately responding to a timely manner to emergent issues. (USFA, 2010)

This Applied Research Project assisted the USFA in meeting Objective Five. The current
economic climate is forcing fire departments to do more with less and seek alternative methods
of funding. These alternative methods include grants, user fees and cost recovery programs. This
has been the case for several years and will most likely be the case for several years to come.
Dealing with this emergent issue head on effectively met Objective Five.

Literature Review

There are several ways to look at the issue of hazardous materials cost recovery. A broad
approach needs to be taken to look at cost recovery in general as there are several ways that
municipalities recover funds. Funds are recovered through property taxes, user fees and billing
for emergency responses such as emergency medical services. What can be learned through cost
recovery programs used in other emergency services disciplines such as emergency medical
response and technical rescue? What are other hazardous materials teams doing in the field of
cost recovery? Finally, what general points can be applied to analyzing a cost recovery program
such as the one used by Greensboro’s Hazardous Materials Team?
Cost recovery can be a thorny issue to address as “the common misconception that tax revenue is sufficient to pay for all city services must be overcome. Once this fact is clear to elected officials, the single largest benefit of a good cost recovery system is that it creates cost-consciousness in a political environment.” (MIS, 1990, p. 17) Many people may believe that their tax dollars should be enough to pay for everything, but this is no longer the case. Tax revenues are down and costs are up. The budget shortfall must be made up somehow. A good, accurate cost recovery system can certainly be part of the solution.

The problem with hazardous materials response is that it can be incredibly expensive as seen in Table 1 Hazardous Materials Incident Cost Recovery Program Information and it is impossible to forecast when one of these large scale events will occur. “These days, local governments can ill-afford to absorb the costs of significant, unplanned and unbudgeted expenditures.” (Berman, 1997, p. 68) The idea is to use cost recovery as just that, recovering the costs incurred for incident response. This is not a profit making venture. Those responsible for the costs pay the bill as opposed to spreading the costs among the taxpayers.

What things should be billed for when it comes to billing for hazardous materials response? “The foundation of a cost recovery program is to determine the value of the services you provide. This service value should be approached the same way a business owner figures the cost of providing his or her goods” (Ward, 1987, p.41) Items that may be billed for include equipment that is used, damaged or destroyed on a call. Vehicle and personnel costs can also be figured into the equation.

For years, the fire service has been looked upon as something that was always there and not given much though until they were needed. The big red trucks could always be seen at the fire station and when someone called 911, they responded. This way of thinking must be
changed. “The financial crisis forced the fire service to look at our service delivery as a business.” (O’Brien, 2005, p.21) As stated previously, tax dollars do not pay for everything and haven’t for a number of years. When a plumber works on a house, a bill is submitted. When a doctor performs a surgery, a bill is submitted. When a fire department responds to a hazardous materials emergency, shouldn’t a bill also be submitted? This is all part of service delivery. Services are provided and then they are paid for by the entity that uses them.

The financial crisis of the past several years, in addition to economic recessions of the past have forced fire departments to look at their budgeting in a different way in that “…the need for much more sophisticated approaches to financial management promises to grow from a need to an essential.” (Jameson, 1983, p. 31) As budgets continue to shrink and fire departments continue to look for ways to save money, this “essential” could easily come from cost recovery. “The costs and expenses associated with hazardous materials response operations can be substantial. Specialized protective clothing such as chemical encapsulating suits can cost as much as $4000 each, while monitoring devices and equipment can average over $1000 per unit.” (Noll, 1989, p. 1)

While there have been some signs that the economy may be improving, nothing is certain as even the experts cannot seem to agree as to how long it will take for the economy to bounce back. The International Association of Fire Chiefs (2008) found the following:

Even though the most optimistic forecasts warn that the economy will remain weak for the near future, and most economists and financial advisors suggest that it might take as long as 3-5 years for the housing markets to stabilize and for the economy to revive. In a recent statement, the Federal Reserve Chairman indicated that “even if the functioning of
financial markets continues to improve, economic conditions will probably remain weak for some time.”

Given the uncertainty of the economy and the absolute necessity to be good stewards of the taxpayers’ money, it is imperative that departments not only have a cost recovery program, but that it is well used and thoroughly evaluated on a regular basis.

The current state of the economy “has resulted in several key financial issues for local and state public sector agencies today.” (Bruegman, 2009, pp 455-456) Specifically as they relate to hazardous materials response, these issues include the following:

- Increasing sophistication and cost of equipment – Some monitoring devices used by hazardous materials teams now cost more than $50,000.
- Rising need for specialized equipment and training – Specialized equipment and training cost money as well.
- Constrained public budgets – Less money available means less funds available to purchase specialized equipment and training.
- New service demands and unfunded mandates – Hazardous materials incidents, like other incidents that fire departments respond to are on the rise.

What are the characteristics of a good cost recovery system? High performance, improved efficiency and full cost based rates are all hallmarks according to Jameson. (1983, p. 52) If a fire department is going to bill for response to a hazardous materials incident, their performance must not be below par by any means. Funds recovered through cost recovery should not be used to support inefficient operations. This is not a good use of funds in any event. A bill should not be submitted for inefficient response. The Responsible Party is responsible only for the materials spilled and not the inefficiency or inadequacy of the fire department. Charges used
for cost recovery must be based upon fact and not conjecture. Disposable materials should be billed at replacement cost only. This is not a for-profit enterprise. The charges used for apparatus should be justified through industry norms or exact costs supplied by the municipality.

Rate structures should minimize the costs to the Responsible Party. As stated previously, the Responsible Party is liable for hazardous materials response and remediation. They are not responsible for purchasing a fire department’s next hazardous materials response apparatus or sending team members to outside training. The cost recovery system should utilize one form and one form only with a specific set of fees and instructions so that fees are applied universally among all shifts or platoon. Field personnel should not be used to collect fees as this is not their job. They may have to write the bill but they should not have to collect the bill.

How often should a cost recovery program be evaluated? The answer may vary depending on how often the program is used but “on-going evaluations should enable optimization of financial resources.” (Giard, 2003, p. 13) Based on information gathered through the survey instrument used in this research, many teams appear to evaluate their programs at a rate that varies from after every use to every five years. Evaluations such as these have lead to 792 municipalities adding or increasing user fees and/or charges for service. (ICMA, 2004, p. 3)

What can be learned from other disciplines within emergency services such as technical rescue and emergency medical response when it comes to the topic of cost recovery? The National Association for Search and Rescue (2009) has this to say:

The National Association for Search and Rescue (NASAR) has joined the Mountain Rescue Association (MRA), the Colorado Search and Rescue Board (CSRB), the International Association of Dive Rescue Specialists (IADRS), the US Coast Guard and the National Park Service – all of which either oppose billing or do not bill people after a
search and rescue (SAR) operation. Although it remains a local decision, billing for search and rescue operations is a dangerous practice and should be avoided. Many believe that people will hesitate to call based on the belief that they will be charged for the operation. “Who is going to pay for it? Who is going to get billed?” is a question frequently asked by reporters when covering these events. (Nordberg, 2000, p. 23)

Emergency Medical Services have been billing for response and transport for years and have the most experience in the cost recovery process. Much can be learned from those riding medic units and applied to hazardous materials response. The best advice is often the most simple. “The best advice I can give you is to avoid even the appearance of impropriety. Do things right, do not cut corners or get creative, and help polish the EMS image – yours, and that of the entire community.” (Kelly, 2008, p. 48) All that needs to be done in this case is to substitute Hazardous Materials for EMS. Simply put, bill only for the apparatus that responds and the materials that are used. Any attempt to “get creative” with the bill will only raise the suspicions of the insurance company and lower your reputation.

Many documentation tips are offered by Johannsen and Kelly (2004, pp 85 -87). Write legibly. While many reports are written on the computer, some may still utilize handwritten forms. If this is the case, make sure others can read your writing. Don’t be afraid to ask. If you’re writing the bill and have a question about filling it out, ask the appropriate person. This may be an officer or a senior member of the team. Don’t make assumptions. If you’re not sure about something, don’t make it up. Verify all information before it is submitted. Be accurate. Your report may be challenged by the insurance company or in litigation. The more that is written down now means less that will have to be remembered years later. Be complete and thorough. Complete all sections of the incident report and the cost recovery form. Leave absolutely nothing
to chance. Be honest and consistent. The integrity of your team and your department is at stake. Do not lie for the sake of trying to recover a few extra dollars. “Credible documentation may convince the auditors and customers of an organization that it has quality processes in place.” (Prouty, 2006, p.15)

Why should a department worry about their cost recovery program? It isn’t as simple as writing and sending a bill and waiting for the money to roll in. “Without a qualifying methodology to determine those recovery costs, any fee schedules used by the department are vulnerable to open challenges by insurance carriers.” (Crosley, 1995, p. 1) Simply stated, a department cannot just make up numbers and hope they will be paid. These numbers have to be justified and may have to be justified in a court of law should they be challenged through legal action. Insurance companies are challenging these fees with increasing regularity, especially apparatus charges.

Procedures

This Applied Research Project draws upon data collected from hazardous materials teams across the United States. Information on hazardous materials teams in North Carolina was requested from the North Carolina Association of Hazardous Materials Responders, specifically those departments that actually field a hazardous materials team staffed by hazardous materials technicians as opposed to those departments that offer hazardous materials response capabilities at the Operations level only. A Google Internet search using the search term “Hazardous Materials Team Contacts” was also used to gather contact information from across the country.

It was decided that one hundred teams would be contacted with a request for information. While no specific formula was used, it was desired to have hazardous materials teams from across the country in the survey as opposed to just using teams from North Carolina, the East
Coast, etc. This would eliminate any state or regional bias by drawing from a larger cross section. While no assumptions were made as to what kind of teams would be contacted, the Google search yielded some unanticipated results. Hazardous materials teams fielded by career fire departments, county health departments, volunteer regional teams, combination departments and even those fielded by law enforcement agencies were all contacted. Some websites did not offer a means of contacting anyone who could respond to the survey. These teams were therefore eliminated from consideration. The first one hundred teams that offered contact information and produced a nation-wide sampling were therefore selected. Since the subject of this Applied Research Project was cost recovery, it was determined that staffing or who fielded the team was not germane to the issue at hand.

A simple, ten question survey was prepared on the website Survey Monkey. (See Appendix C Hazardous Materials Cost Recovery Survey.) One hundred hazardous materials teams were contacted via email over the course of two days. Some teams were contacted through a given email address while others were contacted directly through their websites. The email identified the author of this Applied Research Project, the reason for the information request, the link to the survey on Survey Monkey and assured that the results were confidential. No contact names were requested but the names of the responding teams were requested purely for statistical purposes. Respondents were given 60 days to respond.

Of the one hundred teams contacted, fifty responded for an overall response rate of 50%. Due to time constraints, no follow-up emails were sent as reminders requesting that the survey be completed. Of the fifty that responded, 24 actually supplied the requested information regarding charges pertaining to apparatus that would be compared to the charges used by Greensboro. This
information was used as the basis for recommended changes to the Greensboro Fire Department’s Hazardous Materials Incident Cost Recovery Program.

Upon analyzing the data from the survey, a new set of apparatus charges was created for Greensboro’s Cost Recovery Program. In order to determine the fiscal impact of the changes, all hazardous materials incidents since 2005 that resulted in a bill of greater than $1000 were selected for examination. Cost recovery for calls prior to 2005 was documented on hand-written forms while documentation after 2005 was all computerized and therefore easily archived. The existing bill was recalculated using the new numbers for apparatus charges. See Table 3 Summary of Hazardous Materials Cost Recovery Changes for a comparison of the old fees and the recommended changes. The old bill was compared to the new bill and an estimated fiscal impact was created. See Table 4 Hazardous Materials Modified Incident Cost Estimations for a summary of the possible financial impact. Charges for supplies used on calls were not considered as these are billed for the replacement charges only. No profit margin is used for these disposable items.

The data was presented to Assistant Chief Charles Whitworth, Head of Special Operations for the Greensboro Fire Department. It was recommended that the information be presented to the Command Staff at the next Staff Meeting and then presented to the Greensboro City Council for further consideration. Since the Greensboro Fire Department derives its billing power from City Ordinance, no changes to the program could be made without the prior approval of the City Council.

As with any research project, there are always limitations. If more hazardous materials teams had been contacted, more information would have been available for analysis and review. Time was a factor here in that there was a small window of time available for data collection and
analysis based on the Executive Fire Officer Program schedule. As with all surveys, there is no guarantee how many surveys will be returned, regardless of how many teams are initially contacted or how many reminders are sent out after the first request for information isn’t filled out. Surveys are not returned for several reasons. Contact information changes. People ignore the requests or have the best of intentions for completing it but never do for a variety of reasons.

Teams were contacted based on the order in which they appeared in the Google search. Approximately 35 search pages were used to identify the one hundred teams that were contacted. This resulted in a random approach that did produce a nationwide sampling, but was not truly nationwide in that teams from every State were not contacted. Teams were contacted across the country, but the selection was more random than scientific based on their place in the Google results. A more scientific approach would have taken more time but could have identified a certain number of teams per state to be contacted. This would have given truly nationwide results without any gaps. The problem encountered here is that some states would have many more hazardous materials teams than others based upon size, population, etc.

The number of calls analyzed was also limited by several factors. Computerized record keeping of the Cost Recovery Program dates back to 2005. All Cost Recovery Forms prior to 2005 were filled out by hand. For expedience sake, years prior to 2005 were not included as it would have taken a great deal of time to pull this information from departmental archives. The computerized forms also allowed for easy editing to input the recommended changes to the Cost Recovery Program in order to determine the fiscal impact of the recommended changes.
Results

The survey asked ten simple questions relating to the cost recovery aspect of operating a hazardous materials team. Of the teams that responded, 86% (43 of 50) indicated that they did charge for incident response and associated costs. No reasons were given for not charging, but this question was not asked due to the ten question limit. Seven respondents (14%) indicated that they did not charge for incident response. No respondents skipped the question. The fire department billed for the response in 23 cases (48.9%). Another city department or municipal agency billed for the response in 20 cases (42.6%). A third party billing agency was used by four respondents (8.5%). The question was skipped by three teams.

The Greensboro Fire Department charges for all fire apparatus that respond to a hazardous materials emergency. How did other teams charge for apparatus response? The result was almost 50/50 in billing for all apparatus (46.9% or 23 teams) as opposed to billing for only some apparatus (53.1% or 26 teams). Only one team skipped this question. Those teams that did charge for apparatus response were asked to identify the charges based on the type of apparatus. Information was received using the following categories: Engine/Tanker, Ladder/Aerial, Administrative (Chief or other Officers responding), Hazardous Materials Team and Support Vehicles (Air Units, Mobile Command Posts, etc.). These results are summarized in Table 2 Hazardous Materials Cost Recovery Apparatus Charge Information.
Table 2

**Hazardous Materials Cost Recovery Apparatus Charge Information**

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<td>$ 205</td>
<td>$ 205</td>
<td>$ 200</td>
<td>$ 60</td>
<td></td>
</tr>
<tr>
<td>$ 555</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Maximum | $ 465 | $ 500 | $ 600 | $ 150 | $ 250 |
| Minimum | -     | -     | -     | -     | -     |
| Average (With 0) | $ 145 | $ 155 | $ 251 | $ 51  | $ 85  |
| Average (Without 0) | $ 188 | $ 213 | $ 289 | $ 66  | $ 119 |
| Median   | $ 100 | $ 103 | $ 200 | $ 50  | $ 95  |
Sixteen of the teams (38.1%) indicated that the apparatus cost included personnel costs while 26 teams (61.9%) indicated that the apparatus cost did not include personnel costs. Eight teams skipped this question. Answers varied widely when it came to the topic of billing for personnel costs. Responses included the following (wording is taken directly from the responses to the survey):

- We average out salary for each rank to include personnel working on overtime.
- Manpower is billed at the position’s hourly rate plus backfill at the overtime rate.
- Based on hourly rate for each firefighter/hazmat specialist.
- The hourly costs for the specific resources are based on separate line items, e.g. staffing, vehicle costs, equipment, etc.
- Hourly rates for all HazMat employees.
- $60.00 per hour per staff member
- Labor costs are calculated by position, rank and step according to local Collective Bargaining Agreement.
- Time and One half for all off-duty personnel. On duty personnel - no charge
- Specialty Equipment (actual cost) Support Personnel $35.00/hour Operations Personnel $45.00/hour Command Personnel $55.00/hour Specialty Technicians (Actual Cost).
- Technician $40 hr, Support/Ops $25 hr, Chemist $65 hr, Firefighter $18 hr. Apparatus and personnel are billed for hourly.
- Our fire departments are volunteer, the costs are listed as fire fighter labor and each of the nine volunteer departments has different rates.
- Overtime rate per person per hour.
- Per hour according to Rank.
- Flat rate of $75 per hour. HAZMAT Vehicle has set rate as does some equipment.
- By the hour for specialist and technicians.
- WI State Statute 323 allows billing the responsible party for equipment and personnel. Personnel can be billed at time and one half by taking the average rate of the three nearest full paid fire departments. For billing purposes the Emergency Management agency from the county where the spill occurs performs the billing. For Ozaukee County, WI we met with success in billings about 80% of the time.
- Whatever the hourly rate for the individual that responds is during normal working hours. If after hours then Overtime Rate applies.
- Man hours X cost per hour.
- Hourly - $75 to $101.
- Cost is based on an average of the position salary range.
- Staffing for all non-exempt employees are billed based on actual hourly wage at 1.5 times the pay rate.
- Flat rate of $1375 hr. after first hour. Stand by fee $200.00 per hour after 1st hour. Hourly charges are billed in 15 min. increments.
- We only bill for staffing if we have to do a recall of personnel and that is billed at 1.5 times the highest pay rate fully loaded hourly rate for the rank of the individual called back.
Greensboro writes off the first $150 of every billed hazardous materials response. Other teams were asked if they wrote off any portion of the bill. Thirty (65.2%) did not offer any discount at all while sixteen (34.8%) indicated that they did discount the bill in some fashion. Four teams did not answer the question. When asked what items were written off or discounted during the cost recovery process, the following responses were offered (wording is taken directly from the responses to the survey):

- Small quantities of everyday consumables.
- If in the City of Manitowoc the Manitowoc Fire Dept will absorb the cost of their personnel unless it required the use of overtime.
- Normal salary.
- We are a tax supported Fire Service. Many of our cost are just normal operation expenses for providing service to our county. Just because we respond does not mean you will get a bill.
- Will write off bill if there is no negligence and the incident is under two hours.
- Depends on situation. We try not to but it will depend on spiller ability to pay and is it worth our while for follow up. Most companies have no issue.
- City and County Council will not authorize the additional fee structure. They believe it is an additional tax which they feel the citizens are already paying.
- About 20% of the time we either don't invoice or do not receive funds. Reasons include: Unknown spiller and cost of expendable equipment doesn’t meet the threshold to be reimbursed by the state or the responsible party can demonstrate that they don’t have the financial means to pay.
- Not unless requested by the Responsible Party and only with Health Officer approval.
• If it’s an incident at a facility owed by a municipality.

• Units cancelled in route or that arrived on the scene and did not receive an assignment may be written off. Also we work with the responsible party.

• The first hour of response time. Municipalities participating in an inter-local agreement. Residents who have a natural gas leak or fuel spill not caused by them.

• The first hour the unit is on scene there is no charge for units or personnel, only material. Then the above charges are per hour, per unit.

• $500 deductible for city residents and businesses

• We write off all costs associated with the hazmat response for tax paying citizens within our jurisdiction. All businesses and commercial occupancies are not included in that exception.

• Normal disposables such as absorbents for c-store fuel spills or vehicular fluids at auto accidents.

• Currently, we write off the straight time cost of the response for the apparatus and personnel. We will however charge for any overtime costs for personnel associated with the incident. The straight time costs for personnel are considered the cost of operating a full-time fire department. Past evaluations of attempting to recover the cost for the response have been discussed in the past. As a result it was determined that the recovery of the costs for expended equipment and overtime resulted in greater rates of collection when compared to the larger dollar amounts associated with billing for the entire response, straight time for personnel or a fixed response fee.

• As a city team we have in the past only billed when there has been extreme cost. We are just now developing a city response billing guideline.
• If reimbursement costs are under $100,

One of the driving factors behind this ARP was the fact that Greensboro’s Cost Recovery Program had never been truly evaluated. Other teams were asked how often their programs had been evaluated. The answers included the following:

• 21 teams stated their program was evaluated on an annual basis.
• One team stated their program was evaluated on a bi-annual basis.
• One team indicated an “ongoing” evaluation process.
• Two teams their program was evaluated “as needed”.
• One team evaluated their program after each use.
• Three teams stated that their program was evaluated, but not on a regular basis.
• Six teams have never evaluated their program.
• Four teams evaluated their program every five years.

Finally, survey participants were asked to identify their organization for statistical purposes only. Responding agencies can be found in Appendix A Hazardous Materials Teams Survey Participants.
Discussion

Much can be learned from what other disciplines within emergency services are doing regarding cost recovery. The field of technical rescue is particularly interesting. The National Association for Search and Rescue (2009) has this to say:

The National Association for Search and Rescue (NASAR) has joined the Mountain Rescue Association (MRA), the Colorado Search and Rescue Board (CSRB), the International Association of Dive Rescue Specialists (IADRS), the US Coast Guard and the National Park Service – all of which either oppose billing or do not bill people after a search and rescue (SAR) operation. Although it remains a local decision, billing for search and rescue operations is a dangerous practice and should be avoided.

While NASAR’s opinion has merit and must be respected, it really does not apply to hazardous materials response for a number of reasons. The operations referred to above usually involve a large amount of resources that search for a limited number of people that are lost either in the wilderness or at sea and need rescue. The fear is that people will not call because they are unable to pay for the search and rescue effort. While this may be true, it doesn’t apply to hazardous materials. There is no Federal law that says individuals are responsible for paying for their own rescue. There is a Federal law that says the Responsible Party is responsible for the response and remediation relating to a hazardous materials incident. Through the Resource Conservation and Recovery Act, this responsibility is also known as “cradle to grave” where a manufacturer or shipper can be found liable for costs for many years after the incident occurs.

The argument will always exist that cost recovery should not be an issue because tax dollars should be sufficient to pay for any hazardous materials response. The two sides of the argument are best stated by Damrell (1993, p.1) in a previous Applied Research Project:
Traditionalists maintain that petrochemical industries already pay taxes and any additional fees or assessments would be unfair. They also maintain that this special service (HMRT) contributes towards protecting the community’s safety, jobs and quality of life and therefore all citizens should contribute. Another view claims the responsible party who subjects the community to risks and creates the hazards should fund hazardous materials response teams.

While this quote deals with petrochemical industries, it can easily be applied to all aspects of hazardous materials, including shipping, manufacturing, etc. This view is also myopic in several respects. Regardless of the tax dollars paid by the responsible party, they are still responsible for the cost of response, clean-up and mitigation according to Federal law. Not addressed is what happens when the responsible party pays taxes in one jurisdiction but the incident happens in another jurisdiction. Should the responding agency just write off the cost of the incident because the responsible party pays taxes in other state? This would not be a responsible way to spend dwindling tax dollars.

In examining the data provided by other hazardous materials teams (See Table 2, Hazardous Materials Cost Recovery Apparatus Charge Information) it was discovered that Greensboro is well below the average in all aspects of apparatus billing. Not only is Greensboro below average in 2012, they have been below average for twenty years or more. Numerous figures are cited in a previous Applied Research Project (Webb, 1994, p.10) from several different municipalities. In 1991, volunteer fire departments charged $250 for Engine and Ladder companies and $100 for command vehicles. In 1988 in Ohio, these fees were $300 for Engines and $500 for Ladders. The rates currently charged by Greensboro are $150 for Engines and Ladders and $25 for command vehicles. Comparing the rates currently charged by Greensboro to
the information received through the survey instrument and the information from twenty years ago and the conclusion is obvious. The apparatus rates charged by Greensboro must be increased in order to keep up with the economic climate. This would be true even if the current economic climate was not in such poor shape, but is especially true in this era of increasing costs and shrinking revenues.

The question is what to charge? An inquiry into the current costs of apparatus used by the Greensboro Fire Department found that new Engines cost $474,075. New Ladders cost $843,107. New Command vehicles (large sport utility vehicles) cost $27,500. (Personal conversation with Battalion Chief Mike Swails, January 24, 2012) An accepted rule of thumb used by the insurance industry is one percent of the purchase price per hour for heavy equipment rental. Using this accepted industry norm, Greensboro could charge (in theory) $4740 per hour for Engine companies, $8431 per hour for Ladder companies and $275 per hour for command vehicles. Would these numbers be sufficient? Absolutely! Are they economically feasible? Absolutely not! The question is then, what should the new numbers be?

Many facts and figures used by various industries are based on averages for a certain industry, geographical area, etc. The proposed new rates for Greensboro’s Hazardous Materials Incident Cost Recovery Program will therefore be based on an average of rates collected from across the country. (See Table 2 Hazardous Materials Cost Recovery Apparatus Charge Information) Greensboro has always charged the same amount for responding fire apparatus ($150 per hour) while agencies responding to the survey instrument indicated a different charge for Engines (average of $188 per hour) and Ladders ($213 per hour). Averaging these two figures together yields a figure of $200 per hour. Based on this information, a charge of $200 per
hour will recommended for both Engine and Ladder Companies. This would be a 33% increase over the current charge.

Greensboro currently charges $150 per hour for a Modified Hazardous Materials Response (one hazardous materials station with four hazardous materials technicians) and $300 per hour for a Full Hazardous Materials Response (two hazardous materials stations with up to sixteen hazardous materials technicians). A Modified Hazardous Materials Response would be for a smaller incident such as a residential gas leak or a small fuel spill. A Full Hazardous Materials response would be for a major incident such as a train derailment or a large scale spill.

Currently the charge for a Modified Hazardous Materials Response is the same as the charge for an Engine or Ladder company response. A Hazardous Materials Unit is a specialized piece of apparatus and the four people responding with it are specially trained, much more so than regular firefighters. If the recommended charge for Engines and Ladders is going to be increased to $200 per hour, the increase for a Modified Hazardous Materials Response would have to be proportionately higher. For this reason, it is recommended that the cost for a Modified Hazardous Materials Response be increased to $250 per hour for an increase of 67%. If the charge for a Modified Hazardous Materials Response is to be increased to $250 per hour, then the charge for a Full Hazardous Materials Response must also be increased proportionately. If the cost for a Modified Hazardous Materials Response is to be increased to $250 per hour, then the cost of a Full Hazardous Materials Response should be increased to $350 per hour for an increase of 17%.

The recommended changes to the charges for the response of the hazardous materials team would be well within industry norms according to the data collected as part of this research. The average charge for a hazardous materials unit is $289 per hour. The recommended change to
the Modified Hazardous Materials Response would still be less than the average charged by agencies who responded to the survey. The recommended change to the Full Hazardous Materials Response would only be 21% above the average and still less than what seven teams in the survey charge.

The current charge for a Command vehicle is $25 per hour. This charge should be increased to $50 per hour for an increase of 100%. While some may initially balk at doubling the price, it must be noted that the current price is extremely low to begin with and much less than the average of $66 per hour. Even doubling the current fee would still be below the average of the teams that responded.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>Old Charge</th>
<th>New Charge</th>
<th>Difference Amount</th>
<th>Percent Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine</td>
<td>$150.00</td>
<td>$200.00</td>
<td>$50.00</td>
<td>33%</td>
</tr>
<tr>
<td>Ladder</td>
<td>$150.00</td>
<td>$200.00</td>
<td>$50.00</td>
<td>33%</td>
</tr>
<tr>
<td>Rescue</td>
<td>$150.00</td>
<td>$200.00</td>
<td>$50.00</td>
<td>33%</td>
</tr>
<tr>
<td>Admin</td>
<td>$25.00</td>
<td>$50.00</td>
<td>$25.00</td>
<td>100%</td>
</tr>
<tr>
<td>Modified HazMat</td>
<td>$150.00</td>
<td>$250.00</td>
<td>$100.00</td>
<td>67%</td>
</tr>
<tr>
<td>Full HazMat</td>
<td>$300.00</td>
<td>$350.00</td>
<td>$50.00</td>
<td>17%</td>
</tr>
</tbody>
</table>

What effect will increasing the charges for apparatus response have on the Cost Recovery Program? It is impossible to give a precise forecast because the number of hazardous materials responses (and the size of these responses) varies from year to year. As noted in Table 1, the number of billable hazardous materials responses varies widely from year to year. A rough approximation can be made however. All hazardous materials responses that generated a bill of more than $1000 were selected for review. The entire bill was recalculated utilizing the new charges summarized in Table 3 Summary of Hazardous Materials Cost Recovery Changes.
These results are summarized below in Table 4 *Hazardous Materials Modified Incident Cost Estimations*.

Table 4  
**Hazardous Materials Modified Incident Cost Estimations**

<table>
<thead>
<tr>
<th>Incident Number</th>
<th>Original Cost</th>
<th>Modified Cost</th>
<th>Amount Increase</th>
<th>Percentage Increase</th>
</tr>
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<tbody>
<tr>
<td>06-0306038</td>
<td>$1,253.50</td>
<td>$1,903.50</td>
<td>$650.00</td>
<td>52%</td>
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<tr>
<td>06-0601097</td>
<td>$3,405.95</td>
<td>$4,355.95</td>
<td>$950.00</td>
<td>28%</td>
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<tr>
<td>06-0804004</td>
<td>$1,862.50</td>
<td>$2,625.00</td>
<td>$762.50</td>
<td>41%</td>
</tr>
<tr>
<td>06-0915008</td>
<td>$1,659.49</td>
<td>$3,271.99</td>
<td>$1,612.50</td>
<td>97%</td>
</tr>
<tr>
<td>07-0221058</td>
<td>$2,066.95</td>
<td>$2,404.45</td>
<td>$337.50</td>
<td>16%</td>
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<tr>
<td>07-0701204</td>
<td>$1,025.00</td>
<td>$1,350.00</td>
<td>$325.00</td>
<td>32%</td>
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<tr>
<td>07-1003086</td>
<td>$1,137.50</td>
<td>$1,675.00</td>
<td>$537.50</td>
<td>47%</td>
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<tr>
<td>07-1005090</td>
<td>$3,387.50</td>
<td>$4,475.00</td>
<td>$1,087.50</td>
<td>32%</td>
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<tr>
<td>07-1019032</td>
<td>$1,279.43</td>
<td>$1,904.43</td>
<td>$625.00</td>
<td>49%</td>
</tr>
<tr>
<td>08-0116015</td>
<td>$2,762.50</td>
<td>$3,925.00</td>
<td>$1,162.50</td>
<td>42%</td>
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<tr>
<td>08-0509024</td>
<td>$2,025.00</td>
<td>$3,625.00</td>
<td>$1,600.00</td>
<td>79%</td>
</tr>
<tr>
<td>08-0825050</td>
<td>$1,712.50</td>
<td>$2,475.00</td>
<td>$762.50</td>
<td>45%</td>
</tr>
<tr>
<td>08-1108023</td>
<td>$1,075.00</td>
<td>$1,325.00</td>
<td>$250.00</td>
<td>23%</td>
</tr>
<tr>
<td>09-0727034</td>
<td>$1,112.34</td>
<td>$1,887.34</td>
<td>$775.00</td>
<td>70%</td>
</tr>
<tr>
<td>10-1215022</td>
<td>$1,000.00</td>
<td>$1,450.00</td>
<td>$450.00</td>
<td>45%</td>
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<tr>
<td>11-0105050</td>
<td>$1,050.30</td>
<td>$1,700.30</td>
<td>$650.00</td>
<td>62%</td>
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<tr>
<td>11-0317014</td>
<td>$1,375.00</td>
<td>$2,050.00</td>
<td>$675.00</td>
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<tr>
<td>11-0317024</td>
<td>$1,750.00</td>
<td>$2,350.00</td>
<td>$600.00</td>
<td>34%</td>
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<tr>
<td>11-0724019</td>
<td>$1,725.00</td>
<td>$2,075.00</td>
<td>$350.00</td>
<td>20%</td>
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<tr>
<td>11-0806062</td>
<td>$1,654.27</td>
<td>$2,579.27</td>
<td>$925.00</td>
<td>56%</td>
</tr>
<tr>
<td>11-0816077</td>
<td>$1,150.00</td>
<td>$1,875.00</td>
<td>$725.00</td>
<td>63%</td>
</tr>
<tr>
<td>11-0908022</td>
<td>$3,162.50</td>
<td>$5,250.00</td>
<td>$2,087.50</td>
<td>66%</td>
</tr>
<tr>
<td>11-1003062</td>
<td>$1,100.00</td>
<td>$1,600.00</td>
<td>$500.00</td>
<td>45%</td>
</tr>
<tr>
<td>11-1129024</td>
<td>$13,620.58</td>
<td>$16,983.08</td>
<td>$3,362.50</td>
<td>25%</td>
</tr>
</tbody>
</table>

| Average         | $2,223.03     | $3,129.80     | $906.77         | 47%                 |

The results are somewhat surprising. The smallest percentage increase was only 16%. The smallest monetary increase was only $250. This is certainly an increase, but one that may be deemed as not worth the trouble to changing an entire program. The largest percentage increase was a rather large 97%. The largest monetary increase was an incredible $3362.50. A change in the Cost Recovery Program that will almost double the amount collected or increase it by $3300
is certainly worth looking at. In just examining the 24 incidents that were used in this analysis, the Greensboro Fire Department could have collected an additional $22000 over seven years. This may not seem like a lot of money when an annual budget of $40 million is considered, but it may result in cuts being eliminated in other areas of the department. It must be remembered that this number applies to the limited number of incidents that were selected for analysis. The actual amount collected would have been much higher had all of the hazardous materials incidents since 2005 been examined.

The wide variation is the increase (16%-97%) can be explained by the uniqueness of each hazardous materials incident. Some may use a great deal of consumables, but not a lot of apparatus and personnel. Other incidents may require a large number of apparatus and personnel, but not much in terms of consumables. The incidents that are labor intensive and require more apparatus and personnel will see the largest monetary increase.

Recommendations

The Greensboro Fire Department’s Hazardous Materials Incident Cost Recovery Program has not been evaluated in at least ten years. During those ten years, diesel costs have skyrocketed, personnel costs have increased as have apparatus costs (both purchase price and operating costs). Equipment costs (absorbent pads and booms, gloves, suits, etc.) have also gone up, but the costs these items has been changed to accommodate these cost increases. The bulk of the costs incurred relate to the apparatus involved and the personnel staffing them.

The current charge for line companies (engines, ladders and the rescue) is $150 per hour. This charge should be increased by 33% to $200 per hour. This increase is justifiable based on the data accumulated where the costs for these apparatus ran as high as $500 per hour. This
Hazardous Materials Cost Recovery

The current charges for hazardous materials team response are $150 for a Modified Hazardous Materials Response (one hazmat vehicle for smaller calls) and $300 for a Full Hazardous Materials Response for larger incidents. These costs should be increased by 67% to $250 for a Modified Hazardous Materials Response and 17% to $350 for a Full Hazardous Materials Response. While the costs for varying response levels were not addressed in the survey instrument, these new charges would be well within the charges commonly used by hazardous materials teams across the country. The $250 charge for a modified response would approximate the average of the responses while the $350 charge for a full response would be well below the maximum amount recorded.

The biggest recommended increase is for the response of Chief Officers. This charge should be increased by 100% from $25 to $50 per hour. The current charge doesn’t even cover the average hourly rate earned by Battalion Chiefs. The recommended charge would still be below the average charge used by responding teams ($66 per hour) and well below the maximum charge of $150 per hour.

A new category for cost recovery should also be created. This category should be called “Support Vehicles” and would include such vehicles as the Mobile Command Post, Air Unit, Foam Tender and Fuel Tender. These vehicles typically respond with only one person as opposed to the line companies that typically respond with at least people and in some cases four. The reduced personnel cost should be reflected in the overall cost as these apparatus should not be grouped in with fully staffed apparatus as they are now. The recommended cost for this new
Hazardous Materials Cost Recovery

Category should be $100 per hour. This charge would be well below the maximum charge noted of $250 per hour and even less than the average charge of $119 per hour.

Any talk of cost increases in the current economic climate will certainly draw criticism. The recommended cost increases can be justified by referencing the accumulated data from across the country. While some hazardous teams charge much less (if at all) than the recommended changes, other teams charge much more. Taking a “middle of the road” approach to a cost increase may make it more palatable to the Greensboro City Council. One way to assist in offsetting the cost increase would be to change the billing increments used for time. Currently, half hour increments are used for billing. This should be changed to quarter hour increments to help offset the cost increase.

The Cost Recovery Program needs to be reevaluated on a regular basis. It is recommended that the program be reevaluated during a period not to exceed once every five years. In times of shrinking budgets and searches for new streams of revenue, it is imperative that the Greensboro Fire Department be good stewards of the citizens’ money and make sure that the program is not only fiscally sound, but up to date as well. This can be accomplished through frequent reviews. This review should be conducted by someone within the Special Operations Division.

Finally, this information needs to be presented to the Greensboro City Council in order to get their approval for changing the costs used for apparatus billing as these changes cannot be made without their approval. By focusing on the fact that these fees will be charged to the Responsible Party (as allowed by Federal law) and will not result in a tax increase or a cut in services in other areas, their support should be somewhat easier to obtain.
These recommendations will produce a positive outcome for the Greensboro Fire Department in that revenues will increase without cutting other parts of the budget or increasing taxes. The costs for hazardous materials response will be borne directly by the Responsible Party and not John Q. Public. Implementation of a regular program review demonstrates that the Greensboro Fire Department is committed to excellence by routinely examining all of its operations for efficiency and cost effectiveness.

There are several general recommendations for those who may wish to duplicate all or parts of this research for their own organization. The backbone of this research was the survey instrument. When designing a survey instrument, the target audience must be well defined. The questions must be well thought out in advance in order to ensure that the answers will generate the needed data for analysis. More teams contacted will yield more data to be analyzed which will create a better overall result.

A decision must be made as to how the survey instrument will be distributed. Will an online survey be used or will a printed survey be mailed? Online surveys are cheaper and allow for an easier assembly of data. A ten question survey can be distributed for free. A more in-depth survey consisting of more questions will require a membership or subscription fee if an online service is used. A plan should also be created for those contacted that do not respond. Should they be contacted again and given a friendly reminder or should a second group be contacted to make up for those in the first group that fail to respond to the survey?

The biggest question to answer relates to the support for the research. Do the organization and the municipality support the possibility of cost increases? If the support is not there from the outset, it may be a waste of time to conduct the research, distribute a survey and analyze the data.
Gauge the reaction of all parties involved in the decision making process before attempting to begin a project of this magnitude.
References


Greensboro, North Carolina Code of Ordinances Chapter 10 Article III.


Appendix A

Hazardous Materials Teams Survey Participants

<table>
<thead>
<tr>
<th>Seattle Fire Department – WA</th>
<th>Arlington County Fire Department – VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idaho Falls Fire Department – ID</td>
<td>Elmira Fire Department – NY</td>
</tr>
<tr>
<td>Pinellas County Public Safety Services – Fl</td>
<td>Chesapeake Fire Department – VA</td>
</tr>
<tr>
<td>Roseville Fire Department – CA</td>
<td>San Diego Fire Department – CA</td>
</tr>
<tr>
<td>Lubbock Fire Department – TX</td>
<td>Manitowoc Fire Department – WI</td>
</tr>
<tr>
<td>Rochester Fire Department – MN</td>
<td>Wichita Fire Department – KS</td>
</tr>
<tr>
<td>Danville Fire Department – VA</td>
<td>El Paso County Sheriff’s Office – CO</td>
</tr>
<tr>
<td>Jefferson County Emergency Services – WI</td>
<td>Greater Cincinnati HazMat Unit – OH/KY</td>
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<tr>
<td>Monroe County Emergency Management – WI</td>
<td>East Providence Fire Department – RI</td>
</tr>
<tr>
<td>Cherokee County Fire Department – GA</td>
<td>Park City Fire District – UT</td>
</tr>
<tr>
<td>Tri-County HazMat Team – WA</td>
<td>Indianapolis Fire Department – IN</td>
</tr>
<tr>
<td>Aiken County HazMat Team – SC</td>
<td>Virginia Beach Fire Department – VA</td>
</tr>
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<td>Ozaukee County Emergency Management – WI</td>
<td>Solano County HazMat Team – CA</td>
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<td>Warren County HazMat Team – NJ</td>
<td>Connecticut Capital Region HazMat Team – CT</td>
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<tr>
<td>Portland Fire Department – OR</td>
<td>Stockton Fire Department – CA</td>
</tr>
<tr>
<td>Fayetteville Fire Department – NC</td>
<td>Concord Fire &amp; Life Safety – NC</td>
</tr>
<tr>
<td>Gastonia Fire Department – NC</td>
<td>Wilson Fire Department – NC</td>
</tr>
<tr>
<td>Raleigh Fire Department – NC</td>
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<td>Durham Fire Department – NC</td>
<td>Cary Fire Department – NC</td>
</tr>
<tr>
<td>Hutchinson Fire Department – KS</td>
<td>El Paso Fire Department – TX</td>
</tr>
<tr>
<td>Kissimmee Fire Department – FL</td>
<td>Asheville Fire Department – NC</td>
</tr>
</tbody>
</table>
Appendix B

Greensboro Hazardous Materials Cost Recovery Ordnance

Greensboro, North Carolina, Code of Ordinances >> - CODE OF ORDINANCES >> Chapter 10 - FIRE PREVENTION AND PROTECTION >> ARTICLE III. - RESPONSE TO HAZARDOUS MATERIALS EMERGENCIES; FEES AND CHARGES >>

ARTICLE III. - RESPONSE TO HAZARDOUS MATERIALS EMERGENCIES; FEES AND CHARGES [25]

Sec. 10-30. - Purpose and authority.

The Greensboro Fire Chief or his designee shall have the authority to summarily abate, control and contain hazardous materials which are emitted into the environment in such a manner as to endanger the health or safety of the general public or the environment. The fire chief or his designee shall have the authority to enter public or private property with or without the owner's consent, to respond to such hazardous materials emergencies. The fire chief or his designee shall determine the type, amount and quantity of equipment and personnel required to adequately abate, control and contain all hazardous materials which are emitted into the environment.

(Ord. No. 89-75, § 1, 6-15-89)

Sec. 10-31. - Responsibility; fees and charges.

The property owner and/or the person exercising control over the hazardous materials that create the hazardous material emergency shall be held financially liable for the response, control, containment, equipment and materials costs incurred by the city fire department during the emergency. The property owner and/or person exercising control over such hazardous material, may provide personnel to assist abatement, removal and remedial measures, provided such personnel have been adequately equipped and trained pursuant to the requirements of state and federal laws. The City of Greensboro shall not be liable for the use of outside personnel. Assistance shall consist of any or all of the following:
(1) Informing fire department personnel of all matters pertaining to the incident.

(2) Supplying emergency response plan information for the site.

(3) Supplying emergency response equipment, personnel and materials.

The city will not charge for abatement, control and containment of hazardous material responses, or fire incidents involving hazardous materials which accrue one hundred fifty dollars ($150.00) or less in charges.

The city will charge for abatement, control and containment of hazardous material responses or fire incidents involving hazardous materials which accrue more than one hundred fifty dollars ($150.00) in charges. In all cases the first one hundred fifty dollars ($150.00) of expenses shall not be charged to the person in default.

Charges for hazardous materials emergency response on behalf of the city by the fire department shall be based upon the following schedule:

(1) Engine, quint and rescue apparatus shall be one hundred fifty dollars ($150.00) per hour for each apparatus. Charges will be assessed in half hour increments after the first hour.

(2) Hazardous materials team response (full) shall be three hundred dollars ($300.00) for the initial hour. Charges will be assessed in half hour increments after the first hour.

(3) Hazardous materials team response (modified) shall be one hundred fifty dollars ($150.00) for the initial hour. Charges will be assessed in half hour increments after the first hour.

(4) Battalion chief response shall be twenty-five dollars ($25.00) per hour. Charges will be assessed in half hour increments after the first hour.

(5) Reusable entry suits shall be three hundred seventy-five dollars ($375.00) for each suit.

(6) Monitors shall be fifty dollars ($50.00) for each monitor.

(7) Any other actual costs of abatement, control and containment of hazardous materials other than set out above.

Failure to pay the charges as assessed shall give the city the right to levy a lien upon the land or the premises where the hazardous material emergency arose and the levy shall be collected in the same manner as unpaid taxes pursuant to the authority of N.C.G.S. 160A-193.

(Ord. No. 89-75, § 1, 6-15-89; Ord. No. 99-127, § 1, 8-2-99; Ord. No. 05-145, § 1, 6-21-05)
Sec. 10-32. - Fire incidents involving hazardous materials.

In fire incidents that involve hazardous materials or an exposure to hazardous materials, no fee will be assessed for resources normally associated with firefighting operations. Fees shall be assessed for those activities and resources (reference section 10-31) associated with the abatement, control and containment of the hazardous materials involvement or exposure which accrues more than one hundred fifty dollars ($150.00) in charges.

(Ord. No. 89-75, § 1, 6-15-89; Ord. No. 05-145, § 2, 6-21-05)

Sec. 10-33. - Definitions.

[The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:]

Full hazardous materials team. Consists of hazardous materials response apparatus, decontamination apparatus and personnel.

Having control over. Shall mean but not be limited to any person using, transferring, storing or transporting a hazardous material immediately prior to release of such hazardous material on to the land or into the air or the waters of the city. (G.S. 143-215.77)

Hazardous material. Any substance which, when discharged in any quantity, may present an eminent and substantial danger to the public health or welfare or to the environment. (G.S. 143-215.77, 215.77A)

Hazardous material response. The sending of fire department equipment to abate hazardous materials which endanger the health or safety of persons or the environment.

Modified hazardous materials team. Consists of hazardous materials response apparatus and personnel.

Person. Include individuals, firms, partnerships, associations, institutions, corporations, local governments and the governmental agencies. (G.S. 143-212)

(Ord. No. 89-75, § 1, 6-15-89; Ord. No. 05-145, § 3, 6-21-05)
Appendix C

Hazardous Materials Cost Recovery Survey

The purpose of this survey is to gather data from Hazardous Materials Teams across the United States regarding their incident cost recovery procedures. Information on their billing processes, materials billed for and staffing and apparatus costs will be utilized to develop an Applied Research Project for the Executive Analysis of Fire Department Operations in Emergency Management Course for the National Fire Academy's Executive Fire Officer Program.

1. For confirmation purposes only, does your Fire Department have a Hazardous Materials Response Team and does it bill for incident response and associated costs?
   - For confirmation purposes only, does your Fire Department have a Hazardous Materials Response Team and does it bill for incident response and associated costs? Yes
   - No

2. Who handles the billing process for hazardous materials incident response cost recovery for your Fire Department?
   - Who handles the billing process for hazardous materials incident response cost recovery for your Fire Department? Fire Department
   - Other Municipal Department / Agency etc.
   - Third Party Billing Agency

3. Does your Fire Department bill for all responding apparatus to a hazardous materials incident?
   - Does your Fire Department bill for all responding apparatus to a hazardous materials incident? Yes
   - No

4. If your Fire Department bills for each apparatus responding, please indicate the associated costs below. (Please indicate if this is a straight fee or hourly charge.)

   Engine/Tanker
   Ladder/Aerial
   Admin Vehicle
   HazMat Team
   Support Vehicle
5. Does the cost billed for apparatus include the cost for personnel?
   ○ Yes
   ○ No

6. If you bill for staffing separately, how do you do so?

7. Do you write off any portion or costs associated with hazardous materials response?
   ○ Yes
   ○ No

8. If any portion of the bill is written off, please explain what is written off and why.

9. How often is your hazardous materials incident cost recovery program evaluated?

10. For statistical reasons only, please identify your Fire Department here.
GREENSBORO FIRE DEPARTMENT
HAZARDOUS MATERIALS EMERGENCY AGREEMENT

On May 5, 2010, the Greensboro Fire Department was dispatched to a Hazardous Materials Emergency located at or near 2103 N. Green Blvd. During our activities to control and eliminate the Hazardous Materials Emergency, it was determined that:

Electric Meks Repair
(Company or Corporation Name)

919 Warren St
(Street Address)

Gboro
(City/Town)

832-6028
(Telephone)

was involved with this Hazardous Materials Emergency.

Tom Rogers, Representative, has advised the Greensboro Fire Department that he is the person representing the company (or person) listed above and has the authority to commit the company financially.

It is acknowledged that our company’s products or equipment or personnel was involved with the Hazardous Materials Emergency. It is also acknowledged that our company is responsible for controlling, containing and cleaning up the Hazardous Materials Emergency. In consideration for services provided for emergency response, we agree that we will pay the cost of controlling and containing the Hazardous Materials incident per rates show below.

Hazardous Materials Emergency Fee Schedule:

1) Engine Company Response = $150 per hour, assessed in half hour increments after the first hour.
2) Quint Company Response = $150 per hour, assessed in half hour increments after the first hour.
3) Rescue Company Response = $150 per hour, assessed in half hour increments after the first hour.
4) Modified Hazardous Materials Response = $150 per hour, assessed in half hour increments after the first hour.
5) Full Hazardous Materials Response = $300 per hour, assessed in half hour increments after the first hour.
6) Battalion Chief Response = $25 per hour, assessed in half hour increments after the first hour.
7) Any other actual costs of abatement, control and containment of Hazardous Materials.

[Signatures and dates]

Company Representative Signature

Battalion Chief

Greensboro Fire Department Incident Commander/Signature & Rank

FIRE-133-105 (REV 0-05)
HAZMAT COST RECOVERY WORKSHEET

<table>
<thead>
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<th>Incident Date</th>
<th>5/5/10</th>
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<tr>
<td>Incident Number</td>
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<tr>
<td>Location</td>
<td>2103 E. Cone Blvd.</td>
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**Responsible Company / Individual**
- **Company name**: Electric Motor Repair
- **Individual name**: Tom Rogers
- **Address**: 919 Warren Street
- **City State Zip**: Greensboro, NC 27403
- **Mailing Add**: Phone(s)
  - 336-852-6028

**A Fees (Fees are per hour in 30 minute increments)**

<table>
<thead>
<tr>
<th>Fire Companies</th>
<th>Dispatch Complete</th>
<th>Time</th>
<th>Rate</th>
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<tbody>
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<td>15:18</td>
<td>16:25</td>
<td>1:07</td>
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<tr>
<td>Administrative</td>
<td>Car 1</td>
<td>15:17</td>
<td>16:13</td>
<td>0:56</td>
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<td>Hazmat 11</td>
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<td>16:22</td>
<td>1:05</td>
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**B Materials / Equipment (Replacement costs)**

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<tr>
<th>Quan</th>
<th>Item Description</th>
<th>Each</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
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</tbody>
</table>

**C Other Charges (Charges by other City departments, etc)**

<table>
<thead>
<tr>
<th>Item description</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$0.00</td>
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**Signatures**
- Michael Johnson
  - Battalion Chief
  - Section A Fees $475.00
- Section B Materials / Equipment $100.00
- Section C Other charges $0.00
  - Mandated write-off $150.00

**Deputy Chief**

**Total Charges** $425.00

*Attach white copy of the Cost Recovery Agreement*