

**DEVELOPING A TRAINING PROGRAM FOR MINNEAPOLIS FIRE  
DEPARTMENT RESPONSES TO METHAMPHETAMINE DRUG LABS**

**EXECUTIVE DEVELOPMENT**

BY: Kristi Rollwagen  
Minneapolis Fire Department  
Minneapolis, Minnesota

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## **ABSTRACT**

The Minneapolis Fire Department responded to 6 methamphetamine drug lab incidents in the year 2001. As more of these labs are discovered, it is becoming increasingly obvious that there is a real potential for serious injury or death for fire service personnel. The problem is that there is no criteria established for a training program for the Minneapolis Fire Department that addresses response to a methamphetamine drug lab call.

The purpose of this research was to develop a training program addressing fire department responses to methamphetamine drug labs. The following research questions were asked:

1. Is your department aware of any national, state, or local criteria for training for fire department response to a methamphetamine drug lab call. If so, what are they?
2. Does your department have any training criteria for responding to a methamphetamine drug lab call?
3. What does your department see are the dangers associated with responding to a methamphetamine drug lab call?
4. What should be included in the training for response to a methamphetamine drug lab call?

Historical and evaluative research was conducted. An extensive literature review was performed. Survey instruments were sent to fire departments around the State of Minnesota and the country.

Results identified a variety of responses regarding how the fire service views the impact of responding to methamphetamine drug lab incidents and the potential hazards involved with the response. Overwhelmingly, firefighters viewed the threat of fire and explosion and the potential for a hazardous materials exposure to be the greatest hazards associated with responding to the methamphetamine drug lab incident.

Resulting recommendations included (a) developing an awareness level training program for all fire service personnel, (b) training firefighters regarding their support role at the scene of a methamphetamine drug lab incident, (c) reviewing safe response procedures for response to a methamphetamine drug lab fire.

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## INTRODUCTION

Methamphetamine abuse, trafficking and production is a fast growing national problem that has been likened to the crack cocaine epidemic in the early 1990s. In the past few years, methamphetamine abuse and production has spread into the Midwestern regions of the country. The drug is relatively simple to manufacture from commonly available ingredients including ephedrine, pseudoephedrine, red phosphorous, hydrochloric acid, hydriodic acid, iodine, ether, alcohol, Coleman fuel, lithium and anhydrous ammonia. These chemicals and the waste products produced during the manufacturing process are dangerous to human health and the environment. Clandestine laboratories used to manufacture methamphetamine often house substantial quantities of highly toxic, corrosive and explosive chemicals. They may be operated on an intermittent and transient basis in such locations as hotel/motel rooms, barns, trailers, apartments, and rural sites. Laboratory operators display little regard for the environment. As a result, clandestine laboratory sites have been the scene of explosions, fires, toxic fumes, environmental damage, and numerous injuries and deaths (Laszlo, 1998).

The State of Minnesota has seen a dramatic increase in the spread of methamphetamine drug labs over the past few years. In 2002, the Drug Enforcement Administration (DEA) reported 290 methamphetamine drug lab seizures in Minnesota. This is an increase of 54 from the year 2001, when the DEA reported 236 methamphetamine drug lab seizures (Ripley, 2003). In Minneapolis, the fire department has responded to 6 methamphetamine drug lab calls since January 2001. Twenty five police and fire personnel in the state have been injured responding to incidents of people using or making methamphetamine according to Paul Stevens of the Minnesota Bureau of Criminal Apprehension. Firefighters, paramedics and police officers all face risk of injury and even death from labs, whether from chemicals or fires and explosions. They also face unknown long-term health risks from being exposed to meth labs (Rochester Post Bulletin 9/5/01).

The problem is that there is no criteria established for a training program for the Minneapolis Fire Department that addresses responses to methamphetamine drug labs. Training for this type of call has typically been lumped under the refresher component of either the hazardous materials or emergency medical annual training. The unique properties of a methamphetamine drug lab call include the obvious fire hazard and hazardous materials involvement in addition to the crime scene preservation and criminal element present at the scene. These unique properties require awareness level training that goes beyond the typical hazmat or ems refresher. The purpose of the training program would be to develop a safe and effective response to the methamphetamine drug lab call that would not compromise firefighter safety.

The purpose of this research is to develop a training program addressing fire department responses to methamphetamine drug labs. Specifically, the research attempts to examine the issue through a variety of methods including (a) identifying through literature review and historical research the problems that methamphetamine drug lab responses have posed for fire departments nation wide as well as locally; (b) assessing what national, state or local criteria may be in place that address fire department responses to methamphetamine drug lab incidents; (c) surveying the fire agencies of other states and large municipalities in an attempt to identify the

experience, practices, and needs of those agencies relative to training for response to methamphetamine drug lab incidents; and (d) develop a training program for Minneapolis Fire Department responses to methamphetamine drug labs.

Material presented at the National Fire Academy's (NFA) *Executive Development* (ED) course will be applied (see the "Background and Significance" section for an explanation of the relationship between the research and the course material). The specific research questions to be addressed are

1. Is your department aware of any national, state, or local criteria for training for A fire department response to a methamphetamine drug lab call. If so, what are they?
2. Does your department have any training criteria for responding to a methamphetamine drug lab call?
3. What does your department see are the dangers associated with responding to a methamphetamine drug lab call?
4. What should be included in the training for response to a methamphetamine drug lab call?

## **BACKGROUND AND SIGNIFICANCE**

### **History of Methamphetamine**

Methamphetamine has arrived in Minnesota in great force. In 2002, there were 290 methamphetamine lab seizures, an 18 % increase over the 236 labs seized in 2001 and more than doubling the 138 labs seized in 2000. The epidemic is not of methamphetamine use, rather the alarming increase in the number of clandestine labs that produce methamphetamine. Of all the clandestine drug lab seizures nationwide by the Drug Enforcement Administration (DEA), almost all were methamphetamine labs. In fact, the DEA estimates it seized 13,270 methamphetamine drug labs in 2002, up from 11,600 labs in the year 2001. Methamphetamine is described as a potent stimulant and it the fastest growing drug threat to America today, according to the DEA and it is estimated that each person who cooks methamphetamine in a clandestine drug lab environment teaches 10 other people to cook at some point. (Rochester Post Bulletin, 2001). There are three main reasons for the explosive and epidemic developments of meth-producing clan labs. The first is the drug's increased popularity. It has gained notoriety from its connection the rap groups and the "hip-hop" culture. Money is the driving force behind this growth; enormous financial gains can be derived. As an example, an original investment of \$3000 in raw materials and equipment can yield \$35,000 in cash. The drug culture is a multibillion-dollar annual business. Finally, the availability of the over-the-counter chemicals and reagents make the production of methamphetamine almost uncontrollable (Falkenthal, 1997). Methamphetamine is one of the only widely abused controlled substances which an addict, without chemical expertise, can make on his own. A methamphetamine addict only has to turn on his computer to find a recipe for the chemicals and processes required to make the drug.

(DEA Congressional Testimony, 1999). The DEA estimates that fewer than 10 percent of people arrested from small-lab operations are trained chemists, which is one reason there are so many small-lab fires, explosions and injuries. The number of these labs, described by authorities as mom-and-pop operations, has exploded, operating out of cars, homes, boathouses, sheds, even ditches, leaving behind hazardous and toxic waste (Rochester Post Bulletin, 2001). This lack of knowledge has been confirmed by statistics that show that 10 to 15 percent of the clan labs seized are discovered as a result of fire or explosion. Because of this, firefighters may find themselves first on the scene and completely unaware of the environment that they are entering (Falkenthal, 1997). In addition, not knowing the recognition clues or hazards associated with a clan lab, a firefighter may face multiple dangers ranging from personal safety issues as a result of criminal activity and the potential presence of booby traps, to fire and explosion hazards from the volatile chemicals present and the potential for a toxic chemical exposure if adequate personal protective equipment is not donned prior to responding to the call.

This research is being conducted as a required component of the Executive Development (ED) course in the NFA's Executive Fire Officer Program (EFOP). The issues being studied are related to several concepts presented in the course under Chapter 11 Legal Issues, specifically the enabling objective that generates a discussion of fire service policies and procedures that can help minimize personal and professional liability.

The fire service has long been a passive spectator the evolution of the drug culture in America. Our involvement, for the most part, has been confined to drug-related fires and the medical treatment of those who have chosen to make drugs a part of their lives. Our view of the war on drugs has been a battle fought primarily by law enforcement. The negative side to this approach is that the fire service, in many ways, has failed to keep current with “modern technology” as it pertains to the use and manufacture of illicit drugs (Falkenthal, 1997).

Law enforcement officials in other parts of the country have argued that a coordinated local response to clan labs will result in: 1) a decrease in the number of meth users; and 2) an immediate increase in the number of labs discovered, followed by a significant decrease in new lab activity (Minnesota Department of Health, 2002). Local response measures mentioned included a multitude of law enforcement initiatives as well as meth lab specific training for first responders. Enacting a local cleanup ordinance is another important step in the local response. The first three ordinances written in Minnesota were written with the objective of: 1) protecting citizens, law enforcement personnel and emergency responders; 2) applying appropriate safety guidelines while keeping costs in check and 3) reducing illegal, unsafe activity (Minnesota Department of Health, 2002).

Keeping in mind one of the four USFA operational objectives of reducing the loss of life from fire of firefighters, the most important initiative that can be taken to address the methamphetamine problem that is facing the fire service is to clearly define the roles and responsibilities of those agencies impacted by clandestine methamphetamine drug labs. This step is necessary to appropriately assign tasks and ensure that individuals have the proper training to respond safely.

## LITERATURE REVIEW

### The Impact of the Methamphetamine Problem on the Fire Service

Our country's drug problem is growing by leaps and bounds. While the focus is often on the importation to the United States of many illegal drugs, one issue that impacts the fire service directly is the manufacturing of controlled substances in clandestine drug laboratories. The fire service becomes involved when the manufacturing process creates a problem and there is either a medical emergency because the operator becomes exposed, or there is a fire because of the inexperience in handling these chemicals. This is a particularly common occurrence because most of the operators have little or no chemistry background. In addition, the fire service becomes involved when the illegal drug manufacturers do not follow the requirements for the disposal of the hazardous wastes they produce (Isman, 1989).

Firefighters responding to a methamphetamine drug lab call must treat it as a hazardous materials incident. Solvents like acetone, Coleman fuel, and isopropyl alcohol are flammable and explosive. Acids like muriatic and hydrochloric and bases such as sodium hydroxide are contact hazards. Lithium metal is extremely reactive and anhydrous ammonia poses an inhalation hazard. It is estimated that for every pound of methamphetamines produces, five to six pounds of toxic waste is produced (Life or Meth). Typically the cooker is following a recipe to make methamphetamine and has not the slightest idea what he is doing (Falkenthal, 1997).

The fifth edition of Kirk's Fire Investigation book now dedicates a portion of Chapter 13- Chemical Fires and Hazardous Materials to clandestine drug laboratories. Kirk says that a significant number of structure fires are caused every year by the accidental ignition of the solvents or vapors associated with the illicit manufacture of drugs. These fires and explosions are initiated by an electric arc of a switch or motor, the overheating of reactant materials, the flames of a cookstove, or the match of an anxious observer and the ensuing fire is fueled by the large volumes of available flammable liquids on hand.

It is estimated that 75% of all hospital admissions for drugs are related to methamphetamines. Fire and EMS personnel find themselves responding to calls where the manufacturer has overdosed on his product or due to a flaw in the process, have succumbed to the effects of the chemicals being used (Howard, 1997). Personnel find themselves exposed to infectious medical waste created by intravenous drug users, increasing the potential for exposure to AIDS and other bloodborne pathogens (McCardle, 1991).

Fire, explosions and chemical hazards are all dangers found at methamphetamine labs, but data would also indicate that the practice of a large number of drug lab occupants is to booby trap the clandestine site. A study by the National Sheriff's Association noted that of 70 randomly selected raids of clandestine drug labs, 10% were booby trapped with shotguns and explosives. In the 70 raids, 13 firefighters and 4 police officers required hospitalization for injuries. Of the 70 raids, 30% used sophisticated electronic equipment to detect entry (IAFF Clandestine, 1995).

The current trend in methamphetamine production is to keep lab components spread throughout the area, only to be brought together when "cooking" is underway. Many

methamphetamine manufacturers are taking their labs on the road. Fear of staying in one place too long encourages them to work out of campers, vans, buses and other vehicles. Motel rooms, cheap apartments, and rented storage sheds are popular locations for methamphetamine labs allowing the manufacturer to simply rent or sign in under an alias and then just walk away, leaving behind a potential hazardous materials site (Basque, 2000). The mobility of these labs and the transport of the hazardous materials involved in the manufacturing process lend a whole new meaning to the dangers of fighting the routine car fire.

## **The Dangers Associated with Responding to the Methamphetamine Drug Lab Call**

Internet based research on the International Association of Firefighters web page, Firehouse Magazine's web page and the National Fire Protection Association web page found documentation on multiple incidents of fire department response to methamphetamine drug lab calls. A few of those incidents are outlined below:

### October 4, 2002- Jasper Alabama

Five firefighters were overcome by toxic smoke while battling a blaze at a residence on Old Tuscaloosa Road in Parrish where an alleged methamphetamine lab had been found earlier in the day. As firefighters battled the blaze, they also had to battle the thick, toxic smoke coming from the residence and use extreme caution as rounds of ammunition were going off inside the structure. Firefighters found it difficult to fight the fire when they had to dodge bullets and run from the toxic fumes of a meth lab (Firehouse.com, 2002)

### January 10, 2003- Colorado

Fire crews responded to reports of an explosion and fire in a duplex in Colorado. After extinguishing the flames, firefighters searched the basement and found the bodies of two women who died of smoke inhalation after seeking refuge in a crawl space. Two men were also injured, but escaped and were transported for treatment. Investigators determined that camping fuel had started the fire when it spilled onto the floor and ignited. Additional chemicals used in the production of methamphetamine were found in the area of fire origin (NFPA.org, 2003)

### January 8, 2003- Pekin, Illinois

Twenty-eight firefighters worked for hours to fight an apartment fire believed to be caused by a methamphetamine lab explosion. A man, woman and three children were transported to the hospital for burn injuries. In addition, eight apartment residents, two paramedics and one firefighter were treated for minor burns and smoke inhalation. The owner of the apartment building reported that the fire department responded to this same location a week earlier for a report of smoke in the apartment (Firehouse.com, 2003).

### March 8, 1999- Portland, Oregon

The Sheriff's Office has conducted an eviction at this property when they noticed several items in the basement that resembled components of a methamphetamine drug lab. While waiting for the State Crime Lab to arrive, firefighters noticed smoke coming from the basement. Based on the information that had been provided by the Sheriff's Office, firefighters decided that it would be too dangerous to begin an interior attack on the fire. A defensive attack was ordered and all

firefighters wore structural firefighting protective clothing and self-contained breathing apparatus to fight the fire. Once the fire was knocked down, firefighters did not enter the building for overhaul because of the suspected drug lab chemicals in the basement (IAFF.org, 1999).

#### February 24, 2003 – Gulfport, Mississippi

An ammonia leak forced the evacuation of hundreds of tourists around Gulfport, Mississippi. Police say that someone tampered with a 2000-gallon tank of anhydrous ammonia at the Channel Chemical Plant, possibly to steal the chemical to make drugs. The airport was shut down for seven hours and church services were canceled. An all-night Walmart and several small restaurants and a ten-mile stretch of Interstate 10 were all closed (Associated Press, 2003).

#### April 12, 2001- St. Charles County, Missouri

Hazmat response teams arrived to find a chemical cloud hanging over a three-acre area in St Charles County. Officials believed this to be a major anhydrous ammonia leak caused by someone trying to tap a chemical tank to steal for methamphetamine production. State Highway 70 was closed, 250 residents were evacuated and another 5000 residents were asked to remain indoors. Five firefighters were transported to the hospital for injuries. Of the 700 meth labs discovered in Missouri last year, about one in ten was discovered through fire department responses to fires and hazmat spills (Firehouse.com, 2001).

#### July 1, 2001- Albuquerque, New Mexico

A chemical explosion caused by a methamphetamine lab destroyed a home and sent one man to the hospital with burns over 70% of his body (Firehouse.com, 2001)

#### January 3, 2003 – Memphis, Tennessee

Memphis firefighters were called to a house for what appeared to be a methamphetamine lab about to explode. A large meth lab was spewing vapors from the house and fire crews were greeted with a sharp smell of ammonia when they entered through a rear window (Firehouse.com, 2003).

#### May 14, 2001 – Ashford, Washington

From 1996 to 1999, foresters found about two active meth labs per year on state forest land, according to the DNR environmental specialists. In the past year, they have found 20. Nationally, the U.S. Forest Service found 107 meth labs and dump sites in national forests in 1999. Last year, they found 488, a 356 % increase. Getting rid of a meth lab is dangerous and expensive. Meth cooker dump acids, solvents and toxic materials in to the river or to the ground. Most of the waste is highly flammable and explosive, another danger anticipated for the summer forest fire season (Firehouse.com, 2001).

The Rochester Post Bulletin ran a week long series of articles in September 2001 on the impact that methamphetamine has made on the southeastern part on Minnesota. Austin firefighters have been called in for seven meth-related incidents in the past two years according to Austin Fire Chief Dan Wilson. While not all incidents have involved fires, such as the flash fire that took the life of the meth cook and injured his partner, Wilson said that all labs have the potential to be dangerous. Wilson says that methamphetamine response is a big problem because

firefighter gear and self-contained breathing apparatus designed to protect them in a blaze, might not provide enough protection to keep them safe in a meth lab explosion. The threat of an explosion is more of a concern than being contaminated at a meth lab site because the opportunity definitely exists for a whole myriad of things to go wrong (Rochester Post Bulletin, 2001).

Recently released data from the Centers for Disease Control (CDC) also echoes the fact that the first responders are at risk when they respond to clandestine labs. From the Morbidity and Mortality Weekly Report (MMWR 49-page 1021-1024) the CDC reports in the article “Public Health Consequences Among First Responders to Emergency Events Associated with Illicit Methamphetamine Laboratories, 1996-1999” many noteworthy findings involving clan labs. This report accesses statistics from the Agency for Toxic Substances and Disease Registry’s (ATSDR) Hazardous Substance Emergency Events Surveillance (HSEES) program. From 1996-1999 there were 23,327 total incidents involving hazardous substances as reported by 16 states. HSEES also reports that 112 events (0.5%) were associated with methamphetamine labs with all of these events occurring in the five following states; Iowa, Minnesota, Missouri, Oregon and Washington. Additionally, these 112 events at meth labs produced 155 total injuries with 79 occurring to first responders. In other words, 51% of all injuries at meth labs happened to first responders. The breakdown of 79 injuries to first responders is as follows;

- 55 (69.6%) – Police
- 9 (11.4%) – Emergency Medical Technicians/Paramedics
- 8 (10.1%) – Firefighters
- 7 (8.9%) – Hospital Employees

The majority of the injuries were respiratory irritation (54.1%) and eye irritation (10.8%). No personal protective equipment was worn on 85.1% of the first responder victims at these meth labs with police officers accounting for 78.9% of this total. The most common hazardous materials that caused injury were anhydrous ammonia (33.3%) and hydrochloric acid (30.6%). Analysis of this data reveals that firefighters were least likely to be injured at meth labs because they were likely wearing personal protective equipment during these events. As the data show, first responders are at risk for injury during events at illicit meth labs.

### **Establishing a Training Criteria**

Since a fire department’s next response may be to one of these dangerous methamphetamine drug labs, it is imperative to become prepared to minimize risk of injury or death. And a continued emphasis on responder training is recommended since the potential for injury from meth-related activity is to remain significant for the foreseeable future (HSEES, 2002).

A fire department may have contact with an illegal methamphetamine drug lab in one of two scenarios: either while involved in suppression operations when a lab is on fire or as part of operations when law enforcement personnel are dismantling a drug lab ( Krebs, 1992).

“The biggest danger to the fire service is the fact that we respond to a structure fire and do not recognize it is a drug lab until we have already made entry to fight the fire.” (Greg Hayes, Chanhassen Fire, 2003)

During the methamphetamine drug lab call, the fire department is typically charged with standing-by to support emergency decontamination, rescue and possible first aid, along with medical responders (Hermann, 1995).

Since a drug lab is a hazardous materials scene, the US Occupational Safety and Health Administration (OSHA) and the US Environmental Protection Agency (EPA) require very specific things. There must be an incident command system; there has to be a safety officer; detection and monitoring instrument readings have to be taken to permit less restrictive personal protective equipment to be used by responders. Incident command and safety personnel will be concerned with complying with these guidelines, which in most jurisdictions are both federal and state law(Hermann, 1995).

NFPA 472 is the standard for Professional Competence of Responders to Hazardous Materials Incidents The methamphetamine drug lab call is really no different than any other hazardous materials incident firefighters encounter. Instead of the hazardous materials being found in a business or warehouse, meth lab chemicals may be found in homes, outbuildings, hotels, vehicles, or rural dumpsites. Once firefighters are called to the meth lab site, they need to identify the presence of hazardous materials at the scene, isolate and deny entry and make official notification to the proper authorities. These are all competencies of the hazardous materials responder at the awareness level found in section 4.1 .2.2.

## **PROCEDURES**

Evaluative research, that included examining historical perspectives, was conducted through several avenues including literature review, personal correspondence, personal interviews, and use of a survey instrument.

## **Definitions and Clarification of Selected Terms**

**Clandestine-** An illicit operation consisting of a sufficient combination of apparatus and chemicals that either has been or could be used in the manufacture or synthesis of controlled substances.

**Methamphetamine Drug Lab-** A clandestine lab where the drug produced is methamphetamine.

**NFPA 472-** The National Fire Protection Association standard for professional competence of responders to hazardous materials incidents.

## **Literature Review**

Literature searches were initiated at the National Emergency Training Center's Learning Resource Center in August 2002 during the author's attendance at the NFA's *Executive Development* course. Additional searches were conducted within the private libraries of the Minnesota State Colleges and University Fire/EMS/Safety Center. Extensive searches were also conducted on-line through Internet search engines to identify published documents, Web sites, organizations, and newsletters with content relative to the subject of methamphetamine drug labs and in particular, fire department responses to methamphetamine drug lab incidents. The Minneapolis Fire Department collection of fire prevention and code enforcement publications as well as reports from the Minnesota Meth Lab Task Force were also examined.

## **Personal Interviews and Correspondence**

Personal interviews and written correspondence were conducted with experts in various applicable fields. Personal interviews were conducted with Paul Stevens of the Minnesota Bureau of Criminal Apprehension. Mr. Stevens is responsible for drug training development and program delivery on a statewide basis in Minnesota. He was interviewed on January 24, 2003. Interviews were also conducted with DEA Special Agent John Cotner. Mr. Cotner supervises the Clan Lab Enforcement Team for the State of Minnesota. Mr. Cotner was interviewed on December 5, 2002. Mr. Richard Ripley and Mr. Mike Leonard, DEA - Retired, offered information relative to the history of the methamphetamine drug lab problem in the State of Minnesota as well as nation wide. Mr. Ripley and Mr. Leonard were interviewed on January 24, 2003. Deputy Dave DeWall is the Chief of Training for the Minneapolis Fire Department. He was interviewed on November 18, 2002 to gain insight into the specific needs of Minneapolis firefighters in the area of methamphetamine drug lab response.

## **Survey Instrument**

A survey instrument was developed to collect information from fire agencies across the nation (see Appendix A). The accompanying cover letter is found in Appendix B. The survey served to collect data relative to a fire agency's familiarity with methamphetamine drug lab response criteria. The survey was sent to each of the following organizations; the Minnesota State Fire Chief's Association, the Minnesota State Fire Department Association, the Fire Marshals Association of Minnesota, the Minnesota Chapter of the International Association of Arson Investigators, the National Association of State Fire Marshals and the National Fire Academy Alumni Association.

Although not a random survey of the fire service at large, it was felt that this method of distribution may give a Minnesota perspective of the impact of methamphetamine drug lab responses compared to fire departments around the country.

The survey requested objective information from each department pertaining to, (a) whether the department was familiar with any national, state or local training criteria for methamphetamine drug lab responses; (b) whether the department had any training criteria for methamphetamine drug lab responses; (c) what the department saw as the dangers associated with responding to methamphetamine drug lab calls; and (d) what should be included in the training for response to the methamphetamine drug lab call. The survey was entitled *Survey of Fire Department Responses to Methamphetamine Drug Lab Incidents*.

Coworkers of the author in the Minneapolis Fire Department, for clarity of content and functionality of design, first reviewed the survey instrument. It was not, however, field-tested on sample groups. The elimination of sample testing was based on consideration of the content and nature of the survey. The survey questions are objective rather than subjective in nature. The survey requested factual and quantitative data rather than personal feeling or opinion. All of the information requested in the survey could have otherwise been obtained by examining the training records of each individual fire agency. Use of the survey instrument saved time and effort that would have been necessary to request such documents through freedom-of-information procedures from each individual jurisdiction.

The surveys were originally mailed on January 20, 2003. To encourage responses, each survey was sent electronically with an option to reply electronically or by the US Postal Service. Agencies were requested to respond by February 3, 2003.

The content of returned surveys was entered into a table-format database using Microsoft Excel 98. Tables were developed to compile survey information from in state and out-state fire departments (see Table 1). All tabular information was then imported into Microsoft Word 98 format for inclusion in this report.

## **Assumptions and Limitations**

An expected limitation of the research was that some states and cities did not return a survey. Returned survey results were further limited by a number of other factors. The first was an assumption that individuals with sufficient knowledge of the subject to complete the survey answered all survey questions accurately. This appears to have not always been true yet most conflicting answers were not obvious enough to require follow-up telephone contact.

Another identified survey limitation was that only a small number of departments returned completed copies of the survey instrument. This could have resulted from either the limit to the amount of time that the survey was out there or that some agencies were not contacted because of incorrect electronic addresses or the lack of an electronic address for their department.

A final limiting factor were the statistics themselves. Even though the DEA statistics for seized methamphetamine labs are well documented, it is estimated that two thirds of drug labs go undetected, thus diminishing the actual scope of the methamphetamine drug lab problem. In addition, Paul Stevens of the Minnesota Bureau of Criminal Apprehension indicates that many unexplained or uninvestigated fires in rural Minnesota were likely caused by methamphetamine drug lab activity, but were not reported as such.

## RESULTS

In answer to the specific research questions

1. Is your department aware of any national, state or local criteria for training for a fire department response to a methamphetamine drug lab call? If so, what are they?

The research revealed that a majority of respondents felt that they were not aware of any national, state or local criteria for training for fire department response to the methamphetamine drug lab call. Two respondents indicated that they treated the call as a hazardous materials incident and felt that the training criteria were similar to those required by a hazmat call under NFPA 472. One respondent indicated that they utilized the Minnesota Department of Health Response to Clandestine Drug Labs manual to create an awareness level class for their department. And at the local level, one respondent indicated that they utilized the Hennepin County Sheriff's Office for training materials. For those that indicated that they were familiar with a training criteria, many indicated that the criteria included incident stabilization, incident command, personal protective equipment and decontamination. One respondent stated that their department's annual hazmat refresher now includes a section on responding to the methamphetamine drug lab call.

2. Does your department have any training criteria for responding to a methamphetamine drug lab call? If so, what do they consist of?

The research revealed that a majority of fire departments do not formally train for this type of incident, but train for the incident as if it was a hazardous materials response that includes a crime scene. Many departments have sought methamphetamine drug lab awareness training from outside agencies (MN Bureau of Criminal Apprehension) or have been trained as a part of their initial hazardous materials operations or technician training. Finally, as indicated above, a few fire departments have elected to include methamphetamine drug lab awareness training as part of their annual hazmat refresher.

3. What does your department see are the dangers associated with responding to a methamphetamine drug lab call?

The research revealed that most fire departments feel that the biggest hazard responding to the methamphetamine drug lab call are the risk of fire and explosion as well as the presence of hazardous materials at the scene. A majority of fire departments consider the potential for illness or injury as a direct result of exposure to the toxic hazardous materials at the scene to be the second greatest hazard for this type of response. Additional dangers identified included: the exposure to booby traps at the scene, chemical exposure to equipment, dealing with contaminated victims, preservation of the crime scene for law enforcement, the presence of weapons, and cleanup of the hazardous waste at the site.

4. What should be included in the training for response to the methamphetamine drug lab call?

The research revealed that many fire departments were adamant in feeling that the training needed to be on a proactive basis instead of a reactive basis for their department. In other words, many departments wanted to be trained and prepared for this type of incident before they were actually called to respond. Most departments felt that the training should include the following: recognition and stabilization of the incident, utilization of the appropriate personal protective equipment, tips for securing the crime scene, recognition of booby traps (including chemicals used for booby traps), scene safety, hazardous materials response issues (including hazard assessment, monitoring and ventilation and decontamination), unified incident command, how to deal with users and victims, and cleanup and recovery resources.

5. Please share any experiences/information that your department may have gained from responding to the methamphetamine drug lab call in the past.

Most respondents that had any experience responding to methamphetamine drug lab incidents stated that their primary role was to support law enforcement at the scene. The support was given in the form of assisting officers with donning and doffing personal protective equipment, and being on scene to provide emergency decontamination if needed. Those fire departments that did not respond to a methamphetamine drug lab incident to support a law enforcement initiative often found themselves in a methamphetamine drug lab before they knew it. This may be a response for a medical call or for a structure fire where a lab is discovered after firefighters get on scene.

Specifically, 81.2 percent (13 of 16) of surveys received were from fire departments within Minnesota and 18.7 percent (3 of 16) of surveys received were from randomly chosen departments that had students in the NFA Alumni Association. The great majority of survey respondents (81.2 percent) indicated that their fire department was responding to methamphetamine drug lab calls. This was indicated by the departments that stated they trained for this type of incident by either taking an awareness level course or incorporating the training into their annual hazmat refresher or by making the correlation to the similarities for hazmat incident training. The perceived dangers of methamphetamine drug lab responses were similar in nature with many departments seeing fire, explosion and exposure to hazardous materials as being the primary dangers involved with response. 75 percent (12 of 16) of departments responding felt that they lacked a formal training for fire department response to methamphetamine drug lab incidents.

## **DISCUSSION**

### **Interpretation**

The examined literature suggested that the use of methamphetamine and the proliferation of fire department responses to methamphetamine drug lab incidents are on the rise. Data that has been collected by Federal, State and local officials demonstrate that Minnesota has become a prime location for the manufacture of this drug. It is apparent through both the literature search and the results of the survey that there is no national, state or local criteria for training for response to a methamphetamine drug lab incident. Because of the lack of a national or state standard, many fire departments indicated that they did not have their own training criteria at the local level. Many fire departments were already aware of many of the dangers associated with responding to the methamphetamine drug lab call. Most fire departments felt that the risk of fire and explosion as well as the presence of hazardous materials at the scene to be the greatest risk for responding to the methamphetamine drug lab incident. It was encouraging to see that most fire departments felt similar about what needs to be included in the training for a safe response to the methamphetamine drug lab incident. Overall, the research revealed that many fire departments were united in believing that the training for response to the methamphetamine drug lab incident needed to occur on a proactive basis instead of a reactive basis.

### **Implications**

Many survey respondents indicated that they are aware of the need for awareness level training for methamphetamine drug lab response as demonstrated by their individual attempts to incorporate the training subject matter into their annual hazmat refresher training. Yet the current absence of any federal, state or local training criteria have forced those departments to seek the training from outside agencies like law enforcement. While this training may be good, it is focused on the law enforcement elements of the drug problem and fails to identify the role of the fire department for response to the methamphetamine drug lab incident. This results in the need for a comprehensive awareness-training program for the fire service.

A surprising story was exposed as this research was being concluded. In California, every state firefighter knows how to respond to a fire caused by or near a suspected meth lab. Getting rid of meth lab waste is dangerous and expensive. Meth cookers dump battery acid, solvents, and other toxic materials into rivers or the ground. Much of the waste is highly flammable and explosive, another danger anticipated for the summer forest fire season (Associated Press, 2001). In Minnesota, the Department of Natural Resources (DNR) reported that each year they stumble into meth labs or the by products of the production process during the wildfire season as a result of fires located near homes that dispose of their meth lab waste in burn pits on the property or waste left in the vicinity of the home being threatened by wildfire. They also state that the meth lab waste gets mixed into trash piles in backyards that then burn during a wildfire. The DNR is not equipped with SCBA, so they train their officers to recognize the hazard and to stay upwind of the burning materials and to watch for noxious smoke that is not typical of wildland fuels.

## RECOMMENDATIONS

Based on the research, the following recommendations are made

Because responses to clandestine drug labs create a complex and dangerous situation for first responders, we must provide all first responders with proper training to include clan lab awareness and hazards and especially what to do when confronted with a clan lab incident. Safe and prudent standard operating guidelines need to be developed and conveyed to all personnel. This should include an awareness of the hazards and the risks associated with clandestine drug labs. All personnel need to be aware of the signs of a potential drug lab (security, guard dogs, odors, recent explosions, etc.) before an entry is made. Identification of the type of incident is imperative. Proper personal protective equipment is also very important before any entry. Decontamination considerations before any entry, especially in case of a responder emergency, needs to be thought out carefully. If a drug lab is suspected, local police should be alerted and the area should be secured (Firenuggets.com, 2001).

First responders that encounter a clandestine drug lab should follow regular hazardous materials procedures. Most hazmat guidelines dictate that a hazard zone be set up, all response personnel and vehicles should be positioned up-wind, and all other people need to be kept out of the area. Local police and hazardous materials team should be notified. Overall, safety of response personnel should be the top priority.

Fire department response at the awareness level should not be confused with response at the operational level which may include mitigating the methamphetamine drug lab, dealing with anti-personnel devices, preserving and collecting evidence and assisting the cleanup contractor with packaging chemicals for removal. This type of response is often reserved for those responders that have attended the DEA Clandestine Laboratory Response Training. The responders that are trained to safely seize and dismantle a methamphetamine drug lab will be relying on the fire service to provide them with a number of support functions at the scene. They may need assistance with donning or doffing their personal protective equipment, assisting with air monitoring and ventilation, providing emergency fire suppression and field decontamination as well as a minimum of a Basic Life Support ambulance at the scene. The nature of clandestine drug labs requires interagency cooperation from the initial response throughout the cleanup phase of the response. Therefore, any awareness level course must include a review of these support functions at the scene as part of the training.

Finally since recognition of a clandestine drug lab typically does not occur until the fire is brought under control, awareness level training for the fire service needs to review safe response to a meth lab fire as part of the curriculum. There are many dangers associated with fighting a fire that involves methamphetamine drug lab chemicals. In most cases, interior attacks are not feasible because the dangers involved are greater than the benefits of extinguishment. In fact, extinguishment should only be attempted if personnel safety can be ensured. Personnel involved with fighting the fire must utilize full-protective clothing and SCBA because many of the chemicals involved may be absorbed through the skin. In addition, firefighters need to be aware that the chemicals and runoff water from extinguishment are capable of contaminating the area. Diking or other means of reducing contamination need to be pursued.

The Minneapolis Fire Department HazMat Team participated in a 4-hour methamphetamine drug lab awareness course on November 18, 19 and 20, 2002. The class was designed to test drive an awareness level curriculum for response to methamphetamine drug lab incidents. If the class is deemed successful, then the entire Minneapolis Fire Department will be trained to the awareness level for methamphetamine drug lab incident response.

The summary of the training included the following goals and objectives:

1. A general overview of the methamphetamine drug lab problem.
2. A review of the chemical hazard and equipment hazards.
3. A review of drug lab statistics and trends.
4. A review of coordination of federal, state and local agencies.
5. A review of contact information for methamphetamine incidents.
6. Time for questions.
7. Multiple handouts.

The training is designed to accomplish three operational goals for response to the methamphetamine drug lab incident: 1. Increase recognition and identification of the methamphetamine drug lab call, 2. Identify those agencies involved in the methamphetamine drug lab call and the role that the fire department plays at the scene and 3. Enhance firefighter safety through annual methamphetamine drug lab training for all fire service personnel.

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**APPENDIX A**

**Survey of Fire Department Responses to Methamphetamine Drug Lab Incidents.**

1. Is your department aware of any national, state or local criteria for training for a fire department response to a methamphetamine drug lab call? If so, what are they?

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2. Does your department have any training criteria for responding to the methamphetamine drug lab call? If so, what do they consist of?

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3. What does your department see are the dangers associated with responding to a methamphetamine drug lab call?

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4. What should be included in the training for response to the methamphetamine drug lab call?

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5. Please share any experiences/information that your department may have gained responding to a methamphetamine drug lab call in the past.

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## APPENDIX B

### COVER LETTER FOR FIRE DEPARTMENT SURVEY

Dear Fire Service Colleague:

I am embarking upon my first Executive Fire Officer Program research paper and am in the process of collecting information from fire departments in Minnesota. I would appreciate it if you could take a minute to answer the following questions. I welcome any additional information that you may want to add regarding your department's experiences with meth lab responses. Please send the answers back to me by FEBRUARY 3, 2003 as an email attachment at the following address:

**KRISTI.ROLLWAGEN@CI.MINNEAPOLIS.MN.US**

Or by snail mail at

Kristi Rollwagen- Public Information Officer  
Minneapolis Fire Department  
350 South 5<sup>th</sup> Street- Room 230  
Minneapolis, MN 55415-1387

Please call me with any questions at 612-673-2648.

Thanks for your contributions to my research efforts.

Kristi Rollwagen  
Minneapolis Fire

## APPENDIX C

### **METHAMPHETAMINE DRUG LAB AWARENESS POWERPOINT TRAINING PROGRAM FOR THE MINNEAPOLIS FIRE DEPARTMENT**

The PowerPoint training program is too large to include on the same diskette as the paper. It has been placed on a CD-ROM and included with the paper. A print out of the PowerPoint presentation is included with the paper as an attachment.

The training program also included 3 training videos, many pictures from actual drug lab incidents, and multiple handouts that were given to each class attendee. Those have not been included with the paper.

The premise behind the training was to give all fire department hazmat team members a 4-hour awareness level course and to follow that up with a refresher in years to come. The refresher class would reiterate the some of the same information that was presented in the initial training and highlight some of the newer trends in the manufacture of methamphetamine. The refresher training could be included as apart of the annual hazmat or EMS training.

If the training program with the hazmat team is deemed successful, then the entire Minneapolis Fire Department will be offered the 4-hour awareness class.

**Table F1- Results from the Survey of Fire Department Responses to Methamphetamine Drug Lab Incidents**

Fire Department	Is your department aware of any national, state or local criteria for training for a fire department response to a meth drug lab call? <sup>a</sup>	Does your department have any training criteria for responding to a meth drug lab call? <sup>b</sup>	What does your department see are the dangers associated with responding to a meth drug lab call? <sup>c</sup>	What should be included in the training for response to a meth drug lab call? <sup>d</sup>
Burnsville (MN)	N	N#	D,E,F,G	A,B,C,D
Chanhassen (MN)	Y	Y	B,H	N/R
Crookston (MN)	N	Y	G	A,D
DNR (MN)	N	Y	F,H	A,B,E
Elk River (MN)	N	N\$	F,H	D,F,H
Hopkins (MN)	N	N\$	B,H	H
Mankato (MN)	N	N#	B,E,H	B,C,H
Red Wing (MN)	N	N\$	B,H	I,J

Fire Department	Is your department aware of any national, state or local criteria for training for response to a meth drug lab call ? <sup>a</sup>	Does your department have any training criteria for responding to a meth drug lab call ? <sup>b</sup>	What does your department see are the dangers associated with responding to a meth drug lab call ? <sup>c</sup>	What should be included in the training for response to a meth drug lab call? <sup>d</sup>
Rochester (MN)	Y	N	E,F,H	A,B,J
Roseville (MN)	N	N\$	C,F,H	A,E
St. Louis Park (MN)	N	N\$	B,F	A,E,K
West Metro (MN)	N	N\$	F,H	A,C
Winona (MN)	N	N\$	B,H	F,H,K
North Pole (Alaska)	N	N	A,F	A,L
West Covina (Calif)	N	N\$	B,H	A,M
Madison (Wisc)	N	Y	B,H	A

**Note.** All data from 2002 survey of fire departments by author.

“a” answers: N=no, Y=osha/nfpa standard

“b” answers: Y= meth lab awareness training, N\$= treat as a hazmat incident, N#= annual hazmat

“c” answers: A= weapons, B= booby traps, C= contamination, D= cleanup, E= exposure, F= fire/explosion, G= the unknown, H= hazmat/chemicals

“d” answers: A= recognition/identification, B= personal protective equipment, C= cleanup, D= incident command system, E= evidence preservation, F= fire/explosion, G= incident stabilization, H= hazmat/chemicals, I= firefighter safety, J= risk assessment, K= booby traps, L= notification, M= crime scene preservation