

**The Bill Blackwood  
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**Clandestine Laboratory Coordinator For The Law Enforcement Agency**

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**An Administrative Research Paper  
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## **ABSTRACT**

Clandestine methamphetamine laboratories pose a unique threat to law enforcement personnel. The overall level of safety that can be achieved will be determined by how law enforcement agencies train and equip their personnel. Coordinating the training, procuring protective equipment, and maintaining accurate records is a function that should be coordinated at a single point to ensure officer safety and accountability to the highest standards. Information and opinions contained in this document were collected from a variety of literary sources, survey results and the author's personal experience as both a narcotics detective and a clan-lab supervisor over the past 13 years. As evidenced in this project, there remains a wide gap in the abilities of law enforcement agencies to respond to an illicit drug lab. Some departments defer to state or federal agencies, or do nothing, while other departments are quite proactive with respect to training, equipment and records management. Additionally, with the rise in "White Powder" and "WMD" calls, law enforcement agencies are assigning their Clandestine Laboratory Response Teams to respond to incidents involving potential biological hazards or weapons of mass destruction, thus increasing the threat to officers and the public. When a department has a person dedicated solely to coordinating training and managing records and equipment, the agency will be in a better position to prevent injuries to officers and the general public, along with providing a basis to defend against civil liability resulting from those injuries.

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## INTRODUCTION

Law enforcement officers who respond to clandestine methamphetamine laboratories tend to be ill prepared for the threats posed by the differing hazardous materials and toxic conditions encountered at illicit drug lab sites. Hargreaves (2000) wrote, "Police officers receive comprehensive training in many areas of law enforcement. However, very few officers have expertise in firefighting, chemistry, bomb handling techniques, and hazardous waste disposal. Unfortunately, illegal drug laboratories pose deadly threats in all of these areas". In the Central Texas area, law enforcement responses to clandestine labs are generally a collection of officers from different agencies with varying levels of experience. The experience and training levels of responding officers range from advanced to none at all. The problems associated with this disparate training and experience is exacerbated by site-safety officers who fail to ensure their personnel have received proper training along with adequate personal protective equipment (PPE) before entering a contaminated environment. Additionally, a thorough record of employee exposures must be maintained for the protection of employees who may, in future years, suffer illnesses from the delayed effects of exposure to toxic substances. The question of whether a law enforcement agency should have a clandestine laboratory coordinator position to ensure consistent levels of training and program administration will be examined in this research paper.

In 2001 law enforcement agencies responded to over 12,000 illegal drug labs nationwide (Network Environmental Services, 2003). This research paper will illustrate how the policies and procedures governing response, record retention, medical evaluations, training, and protective equipment provided to law enforcement personnel

assigned to a Clandestine Laboratory Response Team (CLRT) should be consistent from agency to agency. The intended outcome of this research paper is to present information to justify a full-time employee (FTE) position for the law enforcement agency.

Methods of inquiry to explore this subject will include the review of publications related to clandestine laboratory mitigation, research of Austin Police Department incident files and injury/exposure rates. Additionally, surveys of other Texas law enforcement agency's policies and procedures were conducted to determine compliance with Occupational Safety and Health Administration (OSHA) and Texas Commission on Environmental Quality (TCEQ) standards and procedures. The data gathered will be analyzed in a descriptive manner.

Based upon the findings of this research, information will be presented to examine the necessity for an agency to create the position of a full-time CLRT Coordinator and consider how the position can be a long-term cost savings tool. The creation of a CLRT Coordinator position could be an effective way for law enforcement agencies to reduce work-related accidents and offset the potential for civil liability from both the injured employee and innocent citizens exposed to hazardous wastes and toxic conditions due to improper lab-site mitigation.

## **REVIEW OF LITERATURE**

Applicable literature on the subject of clandestine laboratory response is generally the same with regard to the fact that methamphetamine production techniques can be extremely dangerous. Since the 1980's illicit methamphetamine manufacturing has evolved from the "Biker Method" to a more refined process that is more efficient and

yields a better product. The aptly named biker method was popular during the 1960's and 1970's. This method was associated with outlaw motorcycle gangs who set up laboratories in rural areas to prevent detection by law enforcement because of the distinctive chemical odors produced during the manufacturing process. Biker labs were usually discovered after an explosion or fire causing firefighters, and police, to respond. Biker labs commonly used phenyl-2-propanone (P2P) as the precursor and ether as the cleansing agent. A cleansing agent is a compound used to separate, or "wash" the methamphetamine from the precursor chemicals and isolate the finished product so it can be harvested after it dries. Ether was a preferred cleansing agent as it evaporates very quickly when heated and leaves little residue for a hydrocarbon based compound. Unfortunately ether has an extremely low flash-point making it quite explosive in nature. During the drying phase, the methamphetamine slurry would be suspended in ether and direct heat applied to the container. The ether would evaporate leaving the finished methamphetamine caked in the container. Over time the evaporating ether fumes would saturate the walls of the structure where the lab was being operated. The more unfortunate methamphetamine cook would immolate himself after overheating the drying slurry or by simply lighting a cigarette, causing the fumes to ignite. The resulting explosion and fire would be catastrophic because the structure itself was saturated with ether. As stated earlier, methamphetamine manufacturing has evolved.

"Ephedrine/pseudoephedrine is now the most common precursor used in methamphetamine production in the United States. The process involves the reduction of ephedrine or pseudoephedrine with hydriodic acid and red phosphorous or a metal, usually lithium or sodium in anhydrous ammonia" (USDoJ, 2003, p. 2). The Birch

method, also known as the Nazi method, uses anhydrous ammonia along with lithium metal. Lithium metal is easily obtained from household batteries. The USDoJ (2003) further advises, "This method accounts for the majority of laboratory operators in the U.S. The method is relatively simple and less time consuming than the other ephedrine/pseudoephedrine methods. Each production cycle is about 30 minutes" (p. 2). Solvents such as acetone, lighter fluid, camp stove fuel and toluene are still commonly used as cleansing agents. Even though flammable solvents are still used in illicit labs, reports of fires are sporadic in the central Texas area. However, these labs can be very toxic. During the reduction phase, when red phosphorus is heated in the presence of acids, it off-gasses phosphine vapors which are fatal in low doses. Burgess (2001) noted the American Conference of Governmental Hygienists established the [phosphine] threshold exposure limit as 0.3 ppm. Phosphine levels higher than the threshold limit will still be odorless and an officer might be exposed for long periods of time without knowing it. Knowledge of air-monitors and the use of a self-contained breathing apparatus (SCBA) are crucial for the health and safety of the CLRT member. Hargreaves (2000) also advises officers should beware of sodium metals as they may ignite when in contact with water while anhydrous ammonia can be a deadly respiratory hazard. Common household chemicals are easily converted to use as precursor chemicals, which has precipitated the sharp increase of illicit clandestine laboratories. Further, these methods are more efficient by yielding more finished product in proportion to precursors, reagents and solvents used. It appears the primary danger to law enforcement is not necessarily fire or explosion but rather toxic gasses and substances that can be inhaled or easily absorbed through the skin. In addition to

those external threats, heat exhaustion, dehydration and injuries resulting from falls are a significant threat to the officer. A review of APD's exposure and injury reports show three reported instances of dehydration and/or heat stress. These are the only injuries associated with the CLRT as reported since 2001. Heat stress and dehydration commonly occur after prolonged periods in a Tyvek® protective suit. The body's internal core temperature can rise to dangerous levels within minutes of sealing the protective suit. Site-safety procedures observed by the Austin Police Department CLRT call for time in a Tyvek® suit to last no longer than twenty minutes whereupon the suit will be removed and the officers vital signs recorded by medical personnel. The vital signs are then compared to base-line statistics recorded prior to the officer donning the protective suit. Any significant deviation in vital signs will result in a period of observation by medical personnel. Injuries from falls can occur as a result of wearing the personal protective equipment. Limited visibility due to air-masks and filters along with limited mobility due to the air-tanks may cause an officer to trip over unseen hazards or knock something over with the large air-tank strapped to their back. In Austin, there is an obvious relationship between the low instances of employee injury and the qualifications of the CLRT supervisor operating as both the unit's coordinator and as the site-safety officer. Additionally the training proficiencies of everyone assigned to the unit is an important factor to consider. As stated in the USDoJ (2003) information brief, "Precursor chemicals, reagents, solvents, and waste products found at methamphetamine laboratories and dumpsites pose risks to the long term health of those exposed to them. These chemicals have already been implicated in disabilities among law enforcement officers" (p. 1). Emergency response teams are in danger of

exposure to such life threatening toxic chemicals as anhydrous ammonia, lithium metals, sodium metals, hydrogen chloride gas and phosphine vapors.

Those officers chosen for service on a Clandestine Laboratory Response team need extensive training in hazardous materials and how to handle them. The Drug Enforcement Agency offers a week-long training program for state and local officers on how to mitigate an illicit lab. Unfortunately the DEA can only accept so many trainees each year resulting in a few officers trying to pass along training and techniques to their co-workers. Their intentions may be good and genuine but unfortunately, bad habits are usually what get passed along by those who are not certified to teach a complicated subject. This problem is further exacerbated by the absence of a site-safety officer or one who is inadequately trained. Site-safety is also a training regimen provided by the DEA. The DEA site-safety officer training program will certify the officer as required by the federal Occupational Safety and Health Administration (OSHA). Even though Texas is not an OSHA mandated state, the OSHA regulations regarding clandestine laboratory safety are good procedures to follow. Having a certified full time coordinator who is well versed in OSHA standards, and has the authority to enforce the standards, might very well reduce a Departments exposure with regard to injured employees or citizens and the civil lawsuits that usually follow industrial accidents. Conners (1989) wrote, "Police agencies can face civil liability for inadequate training, improper handling and storage of chemical waste, and negligent decontamination procedures". The federal Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) have regulations that a department *must* observe when reporting contaminated properties and with regards to the disposal of hazardous wastes. If toxic

substances have been illegally dumped, it is the responding agency's responsibility to secure the site and make the proper notifications. Proper notifications allow these agencies to expedite environmental protections especially when ground water may become contaminated or if innocent citizens will be exposed to toxic substances. Only certified hazardous waste disposal contractors may be used to collect and dispose of hazardous wastes and then transport those wastes on public roads. A CLRT coordinator would know which disposal company is currently on contract with the DEA. Occasionally the disposal contractor must come from a great distance. The disposal company once contracted for the Austin area was located in Oklahoma City resulting in an 8-hour response time. A department's CLRT coordinator would be able coordinate the logistics of securing the area with on-duty or overtime patrol officers from the surrounding districts or jurisdictions.

Pre-assignment medical evaluations are a must for personnel assigned to a CLRT. A medical base-line should be established to document the employee's overall health with a focus on cardiovascular and respiratory functions. Occasionally a potential team member will be diagnosed with a pre-existing condition that might otherwise make them an unsuitable candidate. The medical records associated with employees must be secured and guarded from prying eyes. The custody of these records can be maintained by the agency physician or the CLRT coordinator. Additionally, exposure reports must be filled out each and every time a lab is raided irregardless if there was an exposure or not. These governmental records are mandated to be retained for a period of no less than 30 years. A department would be

well advised to have a mechanism in place to keep these records organized and securely stored.

Any CLRT will need to keep and maintain a host of specialized equipment that must be ready to use at a moments notice. Lives might be lost if the working condition of specialized personal protective equipment is not scrupulously maintained. As an example, According to 29 CFR 1910.134 (OSHA standards) before an employee may wear an air-purifying respirator, the employer must establish a record of the annual qualitative and quantitative fit tests administered to an employee (as cited in U.S. Drug Enforcement Administration, 2000, section (m) *Recordkeeping*). Also, the air-purifying respirator must be re-certified annually along with any air tanks and associated gear such as regulators and hoses. The purchasing of Tyvek® suits and air purifying respirator filters can be an ordeal itself. Exactly which suits and filters to use is dependant on the type of contamination that may be found in an illicit laboratory. The coordinator would be in a position to have a working knowledge of the protective gear's capabilities. One would not wear a suit with an exposed stitched seam into an environment where liquid contaminants are present that could soak through the seam. In the same vein, one would not wear latex gloves when solvents are present that will make the gloves melt.

## **METHODOLOGY**

The accepted methods or standard operating procedures on how an agency responds to an illicit drug laboratory directly relates to the question which considers whether or not a law enforcement agency should have a full-time employee identified as a Clandestine Laboratory Coordinator. The literature reviewed ranged from medical

journals, industry trade journals, governmental reports to private medical reports and conversations. Based upon the author's readings, surveys and interactions with officers from numerous departments, both large and small, the answer to that question is an easy "yes". However, once the factors of budget and personnel limitations get thrown into the mix, the answer is no longer quite so easy. An agency with a CLRT coordinator would be ahead of the bureaucratic curve, so-to-speak, by having someone in-place to facilitate all of the agency's needs with regards to staffing, training, and equipment. Being proactive by creating a position to coordinate all of the associated tasks related to mitigating illicit drug labs will give the chief or sheriff the ability to create or expand accountability in an area where there is traditionally little oversight. Further, one need only compare the cost of one sizable civil-suit award to the cost of one employee.

In addition to literary research and personal experiences; a questionnaire was constructed and distributed to representatives of 18 local, state, and federal law enforcement agencies; resulting in a 100% response rate. Those persons responding to the questionnaire were generally in positions of authority and had direct input into the decision making processes at their respective agencies. Additionally, the author's personal experience as a narcotics detective and supervisor during the past 13 years weighed heavily in the creation of this document.

## **FINDINGS**

Most agree that clan lab sites are dangerous places and extreme care must be taken by everyone involved in the clean-up process. The type and scope of chemical and physical hazards officers can be exposed to are extremely diverse. Officer exposure to hazards associated with illicit drug laboratories severely rivals traditional

law enforcement hazards. The diversity of hazards poses special problems related to appropriate recognition and control. The most obvious hazard identified may not be the most serious in terms of route or duration of exposure, target effects, the ability to control or interaction with other hazards. The glaring chemical exposure hazards associated with opening a container of unknown material may overshadow the equally important recognition of flammability and explosion hazards associated with the same activity. In addition, taking the necessary steps to control the chemical exposure hazard (i.e., use of protective clothing and equipment) may create a hazard more serious than the targeted chemical hazard. Because controlling one hazard may create, or impede control of other hazards. Careful recognition and evaluation of hazards is necessary to develop, prioritize and implement hazard control measures (Austin Police Department, 2001, Section 1 Hazard Recognition and Evaluation). Although the potential hazards associated with field activities are numerous, all are thoroughly documented in current literature. Many hazards identified with clandestine laboratories are nearly identical to similar hazards commonly found in the home and workplace. In addition, other hazards specifically related to waste handling tasks at laboratories are substantially similar to hazardous waste handling activities performed by numerous agencies and contractors for abandoned waste sites and chemical emergency response. Although clandestine drug laboratory field activities pose a unique set of health and safety problems, knowledge of hazards (and control measures) is of concern to law enforcement agency personnel, specifically, the designated site-safety officer who must manage the departments' response to current and future laboratories. Adverse health effects in law enforcement personnel investigating clandestine labs have been reported, even in

individuals wearing respiratory protection. The most common symptoms included headache and respiratory, mucous membrane, and skin irritation (Burgess, 2001). Responding to labs actively manufacturing drugs was also found to be a risk factor for acute symptoms. The most common inhalation exposures were considered to be from acid gasses and solvents (Burgess, 1996). The process used to manufacture methamphetamine varies from lab to lab. One of the most common methods uses red phosphorus, hydriodic acid, and pseudoephedrine. If the red phosphorous is over-heated during the reduction process it may produce phosphine gas. According to Willers-Russo (2000), "Within law enforcement there are anecdotal reports of occupational phosphine exposure. Three deaths reported in methamphetamine cooks were considered secondary to phosphine exposure, although actual exposure concentrations could not be documented" (as cited in Dekkar, 2001). Exposure to phosphine gas may go unnoticed since it has a very low or unnoticeable odor. Individuals may be exposed for relatively long periods without knowing it. The American Conference of Governmental Hygienists has established a threshold limit of 0.3 parts per million (ppm) and a short-term (15 minute) exposure limit of 1 ppm for phosphine (2000). Therefore it is critical for an agency to possess or have access to air-monitoring equipment to detect lethal vapors and gasses. If an agency cannot afford these devices, relationships should be forged with agencies that do. In Austin, the Hazardous Materials unit of the Austin Fire Department keeps and maintains all air-monitoring equipment. The Haz-Mat unit responds to all CLRT call-outs to assist with rescue, fire suppression, air-monitoring and, substance identification.

Reports of property damage and injuries to citizens from clandestine laboratories have been steadily increasing in Austin, TX. In 2003, a luxury hotel sustained fire and explosion damage along with chemical contamination to two rooms being used in the production of methamphetamine. Also in Austin, numerous residences have been condemned due to chemical contamination. In one instance, because of the extreme clutter, the side of the house had to be cut out in order to access the laboratory apparatus.

Procurement of standardized equipment is consistently a problem from agency to agency. Even though one agency has a dedicated budget for lab mitigation and use state of the art SCBA systems and Level A protective suits, another agency in a neighboring jurisdiction is using dust masks and latex gloves purchased from a home improvement store.

The inconsistency in various agencies ability to respond is clearly defined by the questionnaire results. The majority of respondents to the questionnaire indicated their department assigns personnel to task-forces who respond to methamphetamine labs in their particular county or multi-county area. However, these same respondents, who are persons of rank and have decision making status, did not know what kind, if any, training their officers receive or what kind of protective equipment is used. The bulk of the survey's questions were aimed at determining each agency's level of supervision and training, types of safety equipment utilized and adherence to federal regulations. Since most questions were answered with "no" or "unknown", the conclusion the researcher drew from the survey determined that the respondents were ignorant of what their personnel were doing with regards to clandestine laboratories. In the event of an

employee injury or death, this level of ignorance could lead to a significant and embarrassing law-suit settlement.

## **DISCUSSION/CONCLUSIONS**

Law enforcement officers who respond to illicit drug laboratories tend to be ill prepared for the threats posed by the differing hazardous materials and toxic conditions encountered at lab sites. Should a law enforcement agency have a formalized clandestine laboratory coordinator position to ensure consistent levels of training and administration? The lack of coordination with procuring standardized equipment and training and the absence of standard operating procedures with regard to clan lab response can elevate an agency's exposure to civil liability from both injured employees and citizens. Inadequate medical evaluations can expose a department to liability if an employee is tasked with a job they are unfit to perform. By appointing one person to oversee the administration of health and safety evaluations, training and procurement of standardized equipment, an agency's exposure to liability might be greatly reduced.

As the researcher found through the review of literature and questionnaire, there are vast gaps in what most agency's upper management team knows about how their personnel are being trained, protected and deployed to combat clandestine laboratories. There are variations in how police agencies are responding to the ever increasing numbers of seized clandestine drug laboratories. Very few agencies have their own team. Most jurisdictions rely on joint task-forces while the remainder utilizes the Texas Department of Public Safety (DPS) and Drug Enforcement Administration (DEA) to handle discovered labs. It is because of this, the author concludes that the research does "*in-part*" support the assertion that an agency should have a full-time person

dedicated to coordinating the department's response to illicit drug labs. The caveat to this is that each department would not need to have their own coordinator. A full-time coordinator is still needed for every team or task-force that responds to illicit labs. Unfortunately, what was discovered was an unnerving trend where managers really did not know what their employees were doing while assigned to joint task-forces. It is at this point in the chain-of-command; the supervisor should be well-versed in their employee's health, training and access to appropriate protective equipment. If a department ignores this, the risk to police employees and the citizenry at-large is quite apparent. As stated by Hargreaves (2000), "Raiding a clandestine drug laboratory has become one of the most dangerous operations a law enforcement officer can undertake". Among the limitations hindering this study was a shortage of literature addressing the need for a standardized response protocol. The general consensus is to leave the training up to the Drug Enforcement Administration. However, without consistent follow-up training and re-certification, bad habits will prevail. I will conclude by again quoting Hargreaves (2000) as it cuts to the heart of this matter, "Police officers receive comprehensive training in many areas of law enforcement. However, very few officers have expertise in firefighting, chemistry, bomb handling techniques, and hazardous waste disposal. Unfortunately, illegal drug laboratories pose deadly threats in all of these areas".

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