PERFORMANCE AUDIT

DEPARTMENT OF PUBLIC SAFETY

CRIMINAL JUSTICE SUPPORT BUREAU

Report to the Arizona Legislature
By the Auditor General
April 1991
91-2

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STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

April 25, 1991

Members of the Arizona Legislature

The Honorable Fife Symington, Governor

Colonel F. J. "Rick" Ayars, Director
Department of Public Safety

Transmitted herewith is a report of the Auditor General, A Performance Audit of the Department of Public Safety, Criminal Justice Support Bureau. This report is in response to a June 14, 1989, resolution of the Joint Legislative Oversight Committee and was conducted as part of the Sunset Review set forth in Arizona Revised Statutes §§41-2351 through 41-2379.

This report is the third in a series of four reports to be issued on the Department of Public Safety. The report addresses the effectiveness and efficiency of the Criminal Justice Support Bureau. We found that although the Department handles drug evidence worth millions of dollars, the Department does not provide adequate controls to prevent theft of these drugs. (Because of the nature of some of the information and the need for confidentiality, we are transmitting some of our concerns in a separate letter to the President of the Senate, the Speaker of the House, the Chairman and Vice Chairman of both the Joint Legislative Oversight Committee and the Joint Legislative Budget Committee, and the Governor.) We also report the need for the Legislature to examine whether DPS should continue to provide air rescue service. Finally, we found that changes may be needed if the DPS Crime Lab is to continue to meet the needs of its users.

As discussed in their agency response, during the course of the audit DPS established a task force to address a number of our concerns.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on April 26, 1991.

Sincerely,

Douglas R. Norton
Auditor General

DRN:lmn

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SUMMARY

The Office of the Auditor General has conducted a performance audit of the Arizona Department of Public Safety (DPS), Criminal Justice Support Bureau, pursuant to a June 14, 1989, resolution of the Joint Legislative Oversight Committee. This performance audit was conducted as part of the Sunset Review set forth in Arizona Revised Statutes (A.R.S.) §§41-2351 through 41-2379.

This is the second in a series of reports on the Department of Public Safety. The report focuses on the functions of the Criminal Justice Support Bureau, which is responsible for developing, providing, and coordinating scientific, technical, and other services essential to the promotion of public safety in Arizona. The Bureau contains three divisions: Scientific Analysis, Aviation, and Support Services. The Bureau is authorized 158 Full-Time Employees and a Fiscal Year 1991 budget of approximately $9.5 million.

DPS Should Improve Its Controls Over Illegal Drugs **(see pages 5 through 16)**

Although DPS handles drug evidence worth millions of dollars, the Department does not provide adequate controls to prevent theft of these drugs. Drugs received by the DPS evidence room are not adequately packaged to detect or prevent theft or pilferage. Further, drugs are not stored in separate, secure areas, nor is access to the drug quantities adequately restricted. In addition, drug quantities are not routinely inventoried to detect theft or pilferage. Finally, when DPS disposes of the drugs, it does not ensure that witnesses oversee the disposal.

DPS has also exercised weak control over drugs released for reverse sting operations.(1) Between August 4, 1988 and October 19, 1990, DPS released over 2,400 pounds of marijuana (with a wholesale value of $1.6 million) and over 1,100 pounds of cocaine (with a wholesale value of about

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(1) In a typical reverse sting, illegal drugs are offered for sale by undercover police to suspected drug dealers; once the suspect agrees to the purchase, the suspect is apprehended.

$11 million) to both DPS officers and outside law enforcement agencies for use in reverse sting operations. A file review of all 39 releases and visits to seven of the agencies which had received drugs from DPS revealed serious deficiencies with controls over the drugs that were released. For example, failure to properly prepare drugs for release resulted in one agency receiving packages containing marijuana instead of cocaine, and another receiving marijuana from an ongoing case. Further, we found that some releases lacked adequate approval, or case numbers necessary for tracking drugs. Finally, we found that some agencies receiving drugs had insufficient controls to protect against drug loss.

Should DPS Continue To Provide Air Rescue Service? If So, Changes Are Needed **(see pages 17 through 34)**

Should the State of Arizona continue to operate its own air rescue service? While undeniably a valuable service, the Legislature needs to determine whether DPS's medical evacuation (medevac) service should be continued.(1) Current operations are marginal due to equipment, training, and staffing inadequacies. For example, the single-engine helicopters in use by DPS do not provide adequate power to safely land, take-off and perform missions over much of Arizona's terrain. Further, DPS helicopters are frequently out of service for maintenance -- during 1990, the helicopters were out of service an average of 31 percent of the time.

Strong arguments exist both for and against DPS continuing its air medical missions. There are a number of factors which might be argued in favor of discontinuing the service including the need for the service given the existence of private air rescue services, safety concerns, DPS's inability to meet national standards for air ambulance services, a lack of critical medical equipment, and the significant cost associated with upgrading services. Further, Arizona is the only southwestern state to provide medevac as a primary service, whereas other states rely on private providers. However, if service were discontinued, the rural

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(1) DPS has five helicopters based at Phoenix, Tucson, Flagstaff and Kingman forming a 7-days a week, 24-hours a day emergency response system for medical, search and rescue, critical law enforcement and other operations.

areas of the State may be left underserved since DPS is currently the only helicopter provider located in the Flagstaff and Kingman areas. Also, DPS helicopters are able to provide free service to those who need medevac but do not have insurance to pay for it.

If DPS is to continue providing medevac service, extensive additional funding is needed. Funding is particularly needed to upgrade two of DPS's helicopters to twin-engine helicopters suitable for DPS missions. These twin-engine helicopters range in cost from approximately $2 million to $4 million dollars and have double the maintenance and other operating costs of DPS's current single-engine helicopters. Several alternatives could be considered to fund these expenses including establishing a surcharge, assessing special taxes, assessing user fees or increasing appropriations from the General Fund.

Changes May Be Needed If The Crime Lab Is To Continue To Meet The Needs Of Its User **(see pages 35 through 43)**

Although in the past eight years its workload has increased more than twice as fast as its resources, the DPS Crime Lab has been able to meet the needs of law enforcement agencies and prosecuting attorneys. DPS has four regional Crime Labs which provide a number of important services to law enforcement agencies throughout the State. The lab system is accredited and is highly regarded for its quality work. Although the number of cases submitted to the Crime Lab increased 86 percent in the eight-year period from fiscal years 1983 through 1990, the number of scientists on the lab's staff increased by only 42 percent during the same time period. Because of the increased workload, the lab is backlogged in completing its work -- as of January 7, 1991 the lab had 819 cases over 30 days old. However, some of the prosecutors and law enforcement agency officials we surveyed told us thus far the slow turnaround has had little impact on cases as DPS is still able to meet critical deadlines.

Although DPS Crime Lab management has taken appropriate steps to enable the lab to meet users' needs, additional changes may be necessary to handle future growth. One key change would be eliminating unnecessary work, and/or work that can be performed by other sources. The lab

currently performs some analyses that can be performed by other agencies or private laboratories. Eliminating these analyses from the lab's workload would allow it to focus its resources on the most complex analyses which only it can perform. However, in the future, additional staff will be necessary to allow the lab to continue to provide good service to user agencies.

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INTRODUCTION AND BACKGROUND

The Office of the Auditor General has conducted a performance audit of the Arizona Department of Public Safety (DPS), Criminal Justice Support Bureau, pursuant to a June 14, 1989, resolution of the Joint Legislative Oversight Committee. This performance audit was conducted as part of the Sunset Review set forth in Arizona Revised Statutes (A.R.S.) §§41-2351 through 41-2379. This is the second in a series of reports on the Department.

Background

The Department of Public Safety was established on July 1, 1969, to consolidate the functions and responsibilities of the Arizona Highway Patrol, the Enforcement Division of the Department of Liquor Licenses and Control, and the Narcotics Division of the Arizona Department of Law. Currently, DPS is organized into five bureaus: Criminal Investigation, Highway Patrol, Administration, Telecommunications, and Criminal Justice Support. The Department employs 1,629 Full-Time Employees (FTEs) and has an annual budget of $86 million.

Criminal Justice Support Bureau Provides Scientific, Technical, And Other Support Services

The Criminal Justice Support Bureau is responsible for developing, providing, and coordinating scientific, technical, and other services essential to the promotion of public safety in Arizona. Special attention is given to providing scientific analysis and technological support to Arizona's local law enforcement agencies and ensuring the availability of public services and air rescue operations in all parts of the State. Headed by the Assistant Director for Criminal Justice Support, the Bureau is composed of three divisions: Scientific Analysis, Aviation, and Support Services. The staffing levels and responsibilities of each division are as follows:

- Scientific Analysis is authorized 56 FTEs. Through the use of scientific techniques for the precise identification and evaluation of physical evidence, this Division assists law enforcement agencies, prosecutors, and the courts in the investigation and adjudication of criminal cases. The Division has State Crime laboratories located in Phoenix, Tucson, Flagstaff, and Mesa. The services provided by these crime labs include scientific examinations of evidence, crime scene assistance, and expert testimony in court. In addition to the appropriated 56 FTEs, the Division has 16 FTEs funded by grants.

- Aviation is authorized 60 FTEs. The Division has both helicopters and fixed-wing aircraft. The five helicopters are located in Phoenix, Tucson, Flagstaff, and Kingman, and conduct medical transport, search and rescue, and law enforcement missions. The five fixed-wing aircraft are located in Phoenix, and are used for executive transport of the Governor and other agency officials, traffic monitoring, and law enforcement surveillance.

- Support Services is authorized 37 FTEs. The Division stores, safeguards, and disposes of property and evidence. In addition, the Division provides scientific analysis and expert testimony in the areas of questioned documents, polygraph, and accident reconstruction. The Division also licenses private investigators, security guards, and polygraph examiners.

In addition to the Division staff, the Bureau has five administrative staff positions: Assistant Director, Chief of Staff, Executive Secretary, and two Administrative Services Officer Is (a budget officer and a projects officer).

Budget And Staffing

Currently, the Criminal Justice Support Bureau is authorized 158 FTEs and a General Fund budget of approximately $9.5 million. For further information on the expenditures of the Bureau, see Table 1, page 3.

TABLE 1

DEPARTMENT OF PUBLIC SAFETY
CRIMINAL JUSTICE SUPPORT BUREAU
STATEMENT OF FTEs AND ACTUAL AND BUDGETED EXPENDITURES
FISCAL YEARS 1988-89, 1989-90, AND 1990-91
(Unaudited)

	1988-89 Actual	1989-90 Actual	1990-91 Budgeted
FTE Positions	154	158	158
Expenditures			
Personal Services	$5,552,178	$5,942,634	$6,253,100
Employee-Related	1,080,877	985,531	1,198,100
Professional and Outside Services	50,494	48,837	54,400
Travel, In-State	33,315	37,935	42,300
Travel, Out-of-State	31,278	51,150	47,900
Equipment	255,797	263,528	230,500
Other Operating	1,877,050	1,830,189	1,755,700
TOTAL	$8,880,989	$9,159,804	$9,582,000

Sources: Arizona Financial Information System reports for Fiscal Years 1988-89 and 1989-90, and the State of Arizona Appropriations Report for the Fiscal Year Ending June 30, 1991.

Audit Scope

Our audit report of the Department of Public Safety's Criminal Justice Support Bureau presents findings and recommendations in three major areas:

- the need for controls over illegal drugs seized as evidence and used in reverse sting operations;
- the need to improve operations in the Aviation Division; and
- the need for changes to address the Crime Lab's growing workload.

This report also presents other pertinent information on the Department's competition with private sector air medical services, the Aviation Division's difficulties in obtaining and retaining experienced managers, the results of a survey conducted to determine how well DPS Air Rescue Units were meeting the needs of rural users, and a state-of-the-art analytical technique that DPS is implementing in its Crime Lab.

Because of time constraints, we limited our review within each division to those areas with the most pressing concerns. Within the Aviation Division, the scope of our review was limited to rotor-wing operations (fixed-wing operations were not reviewed). In the Support Services Division, we limited our review to drug evidence handling. In addition, we identified another issue within the Support Services Division addressing the workload of the Questioned Documents Unit. However, this issue was not pursued due to time constraints. The section **Area For Further Audit Work** addresses this Unit (see page 53). Within the Crime Lab, we reviewed all areas except the Latent Print and Intoxilizer Units as they had only recently been transferred under the Crime Lab's responsibility.

During the audit work, we identified serious security weaknesses with the manner in which DPS stores illegal drugs. Because of the nature of the information collected and the need for confidentiality, we are transmitting our concerns in a separate letter report to the President of the Senate, the Speaker of the House, and the Chairman and Vice Chairman of both the Joint Legislative Oversight Committee and the Joint Legislative Budget Committee and the Governor.

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the Director of the Arizona Department of Public Safety, and the Assistant Director and staff of the Criminal Justice Support Bureau for their cooperation and assistance during the audit.

FINDING I

DPS SHOULD IMPROVE ITS CONTROLS OVER ILLEGAL DRUGS

Although DPS handles drug evidence worth millions of dollars, the Department does not provide adequate controls to prevent theft of these drugs. We found that from the time drugs are received by DPS evidence rooms until they are destroyed, the DPS controls over drug evidence are weak. In fact, controls are so weak that it would be difficult to determine if drugs were missing and, if so, how much. In addition, the Department lacks strict guidelines and procedures for the release of drugs to DPS investigators and other agencies for use in "reverse sting" operations.

Inadequate storage and controls of illegal drugs, which are of extremely high value, have been a major source of corruption in police departments. In January 1991, cocaine sold for an estimated $10,000 a pound, and marijuana sold for an estimated $650 a pound. Drugs are vulnerable to pilferage and substitution at all points following seizure -- during the time between seizure and the point at which they are placed in proper packaging, during transport to and storage in a property facility, during the time they are at the laboratory for analysis, when they are removed from the property room for court or other purposes, and at the time of their destruction.

As part of our review, we contacted several, outside law enforcement agencies to learn about their procedures for handling drug evidence. At the Federal level we contacted the Drug Enforcement Administration (DEA). At the state level, we contacted California, New Mexico, and Texas, which, like Arizona, seize large quantities of drugs. Based on the recommendations of prosecutors, we contacted the Tucson Police Department because, we were told, it has a noteworthy system for handling illegal drugs. Further, based on recommendations of the U. S. Justice Department, we also contacted the Metro-Dade Police Department in Florida.

DPS Lacks Adequate Internal Controls Over Illegal Drugs

DPS needs to strengthen its internal controls over illegal drugs. Currently, deficiencies exist in DPS procedures for receiving, storing, and destroying illegal drugs received from law enforcement agencies.

DPS evidence rooms receive illegal drugs from both outside law enforcement agencies and DPS officers. Outside law enforcement agencies usually submit only sample quantities of drugs (i.e., less than ten pounds of marijuana and less than one pound of other drugs) for analysis by the DPS Crime Lab. Before the Crime Lab analyzes these drugs, they are stored in DPS evidence rooms. When the analyses are completed, drug samples are returned to the submitting agency. DPS officers submit entire seizures of up to one ton or more of illegal drugs to the DPS evidence rooms for storage until the drugs are approved for disposal.

Controls for drug receipt are weak - In order to prevent theft or pilferage of drug evidence, it is recommended that drugs be weighed and then placed in tamper resistant packaging prior to storage. The DEA Drug Enforcement Handbook stresses the importance of weighing drugs soon after seizure: It states, "...the most positive method for providing a later means of determining the current status (amount or quantity) of evidentiary accumulations is requiring all evidence to be weighed soon after it is seized." In addition, the handbook suggests that once weighed, the evidence should be properly sealed to ensure the court and investigators that the evidence container has not been opened and the evidence has not been tampered with.

During our review of the DPS's evidence rooms, we found that drugs were not being placed in tamper-proof packaging, nor were the weights of drug evidence readily available. When DPS receives drugs, the evidence containers (usually boxes) are closed with tape and the boxes are marked with the appropriate departmental report (DR) number. If drugs are not received in a container, DPS places the drug evidence in a box, seals the container with tape and marks it with the DR number. Although the DEA Enforcement Handbook recommends using a special tamper-resistant tape or heat sealing, DPS uses a commercial packing tape that can easily be

duplicated.[1] DPS policy also requires that the submitting officer initial the tape so as to be able to detect whether the box has been tampered with. However, observations of DPS receipt of drugs showed that this policy was not routinely followed. Finally, the weights of drug evidence are not routinely recorded. According to DPS officials, officers who seize drugs weigh the drugs and record the weight in the body of their reports. However, this weight is not routinely recorded on evidence room control forms. For example, although one evidence form we reviewed stated that DPS had received 67 boxes of marijuana and 20 boxes of cocaine, the form did not indicate the weight of the drugs. Without this information, evidence room custodians have no basis for detecting drug loss.

As a further safeguard against theft or pilferage, DPS should consider determining the quality of the drugs prior to packaging. Drugs, such as cocaine and heroin, can vary in quality. Without quality analysis prior to storage, drug packages could be opened and portions of the drug substituted without detection. Testing drug quality prior to storage would provide a means to detect such substitution.

Tucson's Police Department appears to have a model system for receiving drugs. All drugs (except marijuana) seized by the Tucson Police Department are first sent to its crime lab for analysis. The Crime Lab also weighs the drugs and places them in special heat-sealed plastic packaging. Although drugs other than marijuana are analyzed, weighed, and placed in tamper-proof packaging before they are sent to an evidence room for storage, marijuana is sent directly to the evidence room for storage. The crime lab is then notified and sends a lab technician to the evidence room to obtain the necessary samples.

Storage of drugs is inadequate - DPS does not adequately protect the drugs it stores. The Department stores illegal drugs with other evidence on the same shelves in its evidence rooms. The overflow of drugs is placed in separate containers located outside the permanent storage facilities. According to the **Standards for Law Enforcement Agencies**[2],

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(1) Of those outside agencies we contacted, most are either currently using heat sealing or plan to use this method in the near future.

(2) These standards were developed and approved by the Commission on Accreditation of Law Enforcement Agencies.

items of property requiring added protection, including narcotics and dangerous drugs, should be stored in separate, locked, and secured areas within the agency's property storage facilities. The DEA, New Mexico, Texas, and the Tucson and Metro-Dade Police Departments all warehouse drugs in separate storage areas.

In addition to storing drugs in separate, adequately secured facilities, DPS should restrict access to these special drug storage facilities. Access controls used by other police agencies we contacted included limiting entrance to specified persons, use of special logs to record the names and signatures of all persons entering and leaving the controlled area, and requiring the presence of at least two people whenever the controlled area is entered. Currently, because DPS evidence rooms do not have separate storage areas for drugs, all evidence room employees have continuous access to illegal drugs.

DPS also needs to strengthen controls over the removal of drugs from evidence rooms. Drugs are removed from the evidence room by case officers and other DPS personnel for various purposes. When drugs are removed by a case officer, DPS does not require that the officer's superior approve the removal. In addition, when drugs are returned to the evidence room, they are not reweighed to check for pilferage or substitution. In some instances, a substantial quantity of drugs is removed from the evidence room. For example, in one case in which DPS received 25 boxes of suspected cocaine (no weight provided), the Department allowed ten boxes to be checked out overnight, indicating the purpose of the removal only as "media."

By contrast, we found that the Tucson Police Department has much tighter controls on the release of drugs. The Tucson Police Department allows drugs to be removed only by court order or by order of the Chief or Deputy Chief of Police. Case officers and prosecutors are allowed to view drug evidence in the evidence room but are not allowed to remove it. If cocaine is removed, before returning it to the evidence room, it is sent to the crime lab where the seals are again examined and, if the integrity of the packaging has been compromised, the lab retests the drugs for type, quality, and weight, and then reseals the package and delivers the drugs to the evidence room for storage. We also found that

the Metro-Dade Police Department follows similar procedures and the Texas DPS does not release drugs submitted by DPS officers without a court order.

Finally, DPS does not routinely inventory the quantity of drugs in storage. Routine inventories of drug quantities are essential to detecting drug theft or pilferage. However, under the current operating conditions, DPS does not conduct inventories on drug quantities and is unable to do so. DPS does not log and track drugs separately from other evidence. Thus DPS evidence room officials are unable to identify all drug evidence on hand. But, even if logs were maintained, failure to record drug weights on evidence control forms as well as poor packaging procedures makes it virtually impossible to determine if any drugs have been removed from containers.

<u>Procedures for disposal of drugs are weak</u> - DPS procedures for disposal of drugs should be strengthened. DPS does not aggressively pursue the immediate destruction of drugs seized in excess of evidentiary requirements. In addition, DPS does not ensure that drugs are destroyed in the presence of witnesses. Finally, DPS does not require witnesses during the withdrawal of drugs for use in reverse sting operations or for other investigative purposes.

- <u>Excess drug evidence should be destroyed promptly whenever possible</u> - Largely because of the volume of drugs received, DPS evidence rooms are overcrowded. Currently, an estimated 70 percent of the storage-space in one evidence room is filled with drugs. This overabundance of drugs has forced DPS to utilize temporary storage facilities that are considerably less secure than the evidence rooms.

  Although overwhelmed with drug evidence, DPS has not aggressively pursued the immediate destruction of unnecessary drug evidence. A.R.S. §13-3413.C permits law enforcement agencies that seize marijuana in excess of ten pounds and other drugs in excess of one pound to retain evidentiary samples of ten pounds and one pound respectively and destroy the remainder. However, prior to destruction, agencies must photograph the entire amount of drugs

seized along with identifying information. Further, the agency must inform the suspect or his attorney at least 24 hours prior to such photographing to allow them to be present. Photographs of the evidence are then admissible in any court proceeding for any purpose for which the seized drugs would be admissible.

Although DPS procedures urge case officers to serve Notice of Photography/Excess Evidence Disposal forms at the time of seizure, case officers rarely do. According to evidence room custodians, officers fail to request the destruction of excess drug evidence because many prosecutors prefer to retain all of it. However, even after a Notice of Photography has been issued, prosecutors can request that all the evidence be preserved if there is a valid reason to do so. Prosecutors we interviewed, however, said there are few cases in which more than the evidentiary samples of drugs need to be retained.

- <u>DPS has not ensured that witnesses oversee the destruction of drugs</u> - DEA guidelines recommend that no less than two witnesses should be present to observe and certify the destruction of narcotics and dangerous drugs. DPS policies require that witnesses be present when drugs are disposed of and that they sign an affidavit verifying to their disposal. However, we identified instances in which drugs were destroyed without such a corresponding form. In one case, we observed an evidence room employee burn two bales of marijuana in a DPS incinerator with no witnesses present. The incinerator is near a chain-link fence hidden by several buildings and in a little frequented area; thus, had the employee lacked integrity, he could easily have stolen the marijuana without detection.

- <u>DPS does not require witnesses to the removal of drugs for investigative purposes</u> - Once drugs have been cleared for disposal, DPS has the option of either destroying the drugs, or retaining them for investigative purposes. Currently, when an evidence room custodian decides to retain drugs for investigative purposes, the drugs are withdrawn from the quantities to be burned and retained by the custodian at his discretion. Thus, the determination to remove drugs and the amount to be removed for investigative purposes, may be

made by a single custodian without appropriate supervision. No witnesses are present to assure the reentry of these drugs into evidence room records.

Controls Over Drugs Used For Reverse Stings Are Inadequate

Reverse sting operations provide a legal and effective way to apprehend major drug traffickers. However, DPS has exercised weak control over the large quantities of drugs it releases for these operations.

Law enforcement authorities believe that reverse stings, as permitted by Federal and state laws, are one of the most effective means of apprehending major drug traffickers. In the typical reverse sting, illegal drugs (usually marijuana or cocaine) are offered for sale by undercover police to suspected drug dealers who have previously indicated a predisposition and an ability to purchase and distribute them. Once the suspect agrees to the purchase, the suspect is apprehended, and all money and property used in the transaction is seized.(1)

DPS releases a large volume of drugs - Since DPS began releasing drugs, significant quantities have been provided to both DPS officers and outside law enforcement agencies. Between August 4, 1988 and October 19, 1990, DPS released over 2,400 pounds of marijuana (with a wholesale value of about $1.6 million) and over 1,100 pounds of cocaine (with a wholesale value of about $11 million). Approximately 70 percent of the marijuana was sent to outside agencies, while the remaining 30 percent was distributed to DPS officers. Ninety-six percent of the cocaine was distributed to agencies outside DPS, while only four percent was released to DPS units.

DPS's controls over releases are inadequate - We reviewed file documentation for the 39 instances between August 1988 and October 1990

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(1) Arizona statutes provide an incentive for law enforcement agencies to conduct reverse sting operations. Under the Racketeer Influenced Corrupt Organizations (RICO) statutes, law enforcement agencies are permitted to retain the monies and property seized. Such seizures have provided law enforcement agencies with substantial sums of money.

in which DPS had released drugs both to DPS units and outside agencies for reverse sting purposes. We also visited seven of the agencies that had received drugs from DPS, to determine the amount of drugs received, how the drugs were used, and the final disposition of the drugs. Our review revealed serious deficiencies with controls over the drugs that were released.

- <u>DPS has not adequately prepared drugs for release</u> - Proper preparation of drugs prior to release is important for the success of a reverse sting operation, as well as for providing a system for accountability. Buyers of illegal drugs may test drugs prior to purchasing to ensure they are of a high quality. If the drugs are other than as claimed, both the sting and the undercover officer's safety could be in jeopardy. Further, without proper preparation, neither DPS nor the agency receiving the drugs can know for certain whether drugs have been pilfered, substituted or both.

  In our review of DPS drug distribution procedures for reverse sting operations, we found that the Department had not routinely weighed, tested, or repackaged drugs prior to distribution. Instead, DPS released the drugs in the existing packaging, and noted the release on the control forms. Often the amount released was listed as "boxes", rather than by specific weight, quality, or type of drug. The following examples show the results of such inadequate controls.

  <u>Case 1</u>

  In April 1990, a California county narcotics drug task force requested 200 kilograms of cocaine from DPS for use in reverse sting operations. DPS documentation indicates that 200 kilograms of cocaine was released to the county on April 4, 1990. According to the commander of the task force, following receipt of the packages of cocaine he sent 15 to the lab for a qualitative analysis. The lab results indicated that five of the 15 packages contained marijuana rather than cocaine. In all, 16 of the 200 packages were found to contain marijuana rather than cocaine.

  <u>Comment</u>: Because of DPS's failure to weigh, test, and repackage these drugs prior to distribution, it is virtually impossible to determine whether substitution occurred. DPS documentation indicates that the source of the drugs was a case that involved both marijuana and cocaine, so it could have been a simple mix-up. However, if DPS had weighed, tested, and repackaged these drugs prior to distribution, the Department would have known whether it was releasing marijuana or cocaine.

Case 2

In October 1989 a local police agency received 36 pounds of marijuana from DPS for use in a reverse sting operation. However, upon opening the package containing the marijuana, agency employees found the drugs were too old and moldy to use. On October 17, 1989, the drugs were sent to the agency's property area for destruction. However, on November 20, 1989, the commander of the DPS Evidence Section contacted the agency and said the 36 pounds of marijuana was inadvertently pulled from an active criminal case, and requested the return of the marijuana. Fortunately, the evidence had not yet been destroyed and was returned to DPS.

Comment: Again, without examining the drugs prior to release, DPS was unaware that it was distributing unusable drugs. In addition, the distribution of drugs from an active case shows a lack of controls in the DPS disposal process. Further, had the defense involved in the active case been aware that the chain of custody had been broken, it could have raised the issue, which might have jeopardized the outcome of the case.

- DPS does not ensure that drugs are utilized for legitimate purposes - Prior to releasing drugs for reverse stings, DPS should ensure that the request is for a legitimate purpose. Currently, DPS procedures require that DPS officers submit requests for drugs in writing, that the requests come from the officer's division commander, and that the requests be approved by the Support Services Division (SSD) commander. Also, drugs are to be released under the new case Departmental Report (DR) number for further accountability. In reviewing documentation for ten releases made to DPS officers, we found that DPS did not follow these procedures. The files contained no letters of request in three cases and no new DR number in seven.

DPS does not require outside agencies requesting drugs to provide a case number for use in assuring further accountability or to ensure that the drugs are being used for a legitimate case. The states we contacted either do not release drugs to outside agencies or, if they do, require a court order. According to evidence room personnel, DPS does require a letter of request from the director of an outside agency and approval by the Support Services Division commander, even though these conditions are not expressly stated in DPS written procedures. In reviewing documentation for 29 releases to outside agencies, however, we found that in three cases the letters of request were not from the agency director and in six cases there was no evidence of approval by the SSD commander.

- Receiving agencies lack sufficient controls - Some agencies receiving drugs have insufficient controls to protect against drug loss. We visited seven agencies that had obtained drugs from DPS. Their controls ranged from good to very poor. Several of these agencies had no written policies or procedures for reverse sting operations. Further, several kept very poor records. (Accurate record keeping is a critical factor in maintaining accountability.) The following cases illustrate the results of inadequate controls:

Case 3

One local agency's records indicated that a narcotics officer removed ten one-kilo packages of cocaine from the evidence room on August 23, 1990. The log did not show the drugs were returned to the evidence room until December 13, 1990. Apparently the cocaine was either in the officer's possession for almost four months, outside of the evidence room safe, or the "check-out log" system is faulty. When asked about the drug's removal, the officer indicated that the drugs were used for three separate sting operations, all of which were "one to two kilo deals." Thus, it is also unclear why ten one-kilo packages were removed.

Case 4

In reviewing a log maintained by one county's sheriff's department, we found that although the receipt of narcotics was recorded, the log failed to indicate the removal of these drugs from storage, the date of their removal, and when, or even if, they were returned.

Case 5

One local police agency could not document the disposition of several hundred pounds of drugs received from DPS. The agency officials could neither prove to us that the drugs they had on hand were those that had originated from DPS, nor provide proof of destruction. Further, we found that the door to the evidence facility opened onto the parking lot, and remained open during the entire length of our visit. During this time we observed numerous unescorted workmen coming to and going from the evidence room.

Because it appears that a number of local agencies may not have adequate policies and procedures to safeguard the drugs used in reverse sting operations, DPS should request that the Law Enforcement Coordination Council's subcommittee on drugs develop such policies and procedures. The Arizona Council, which fosters better coordination among law enforcement agencies at all levels, is sponsored by the U. S. Department of Justice and chaired by the U. S. Attorney in Phoenix. Representatives

from Federal, State and local law enforcement agencies throughout Arizona participate in its work.

RECOMMENDATIONS

1. DPS should develop a comprehensive drug control system to ensure the following:

   - when drugs are received, they are identified with weight recorded, and to the extent possible sealed in tamper-proof containers. For hard drugs, such as cocaine or heroine, DPS should consider testing the drug to determine quality;
   - that drugs are stored separately in areas away from other evidence, and access to drugs is strictly limited;
   - that drug releases from the evidence room are restricted as much as possible;
   - that drug packages released from the evidence room are inspected for tampering upon their return, and if necessary, the drugs are reweighed or retested;
   - that inventory levels of all drugs are readily available, and verification of inventory levels occurs on a periodic basis;
   - that drugs in excess of evidentiary samples are disposed of in accordance with A.R.S. §13-3413.C, whenever possible; and
   - when disposals occur, witnesses oversee

     a. the actual incineration, or
     b. if retained, the placement of drugs into a separate inventory.

2. For drugs used in reverse sting operations, DPS should develop controls to ensure:

   - that drugs are weighed, tested, and packaged prior to release. If the drugs are returned, they should be retested;
   - case numbers should be required and provided for all releases;
   - written authorization should be received from appropriate officials for all releases; and
   - records for all releases should be complete and accurate.

FINDING II

SHOULD DPS CONTINUE TO PROVIDE AIR RESCUE SERVICE? IF SO, CHANGES ARE NEEDED

Should the State of Arizona continue to operate its air rescue service? While undeniably a valuable service, the Legislature needs to examine whether the DPS medevac service should be continued. Due to equipment, training, and staffing inadequacies, current operations are marginal. Further, DPS helicopters are frequently out of service and unavailable for air rescue missions. Strong arguments exist both for and against DPS continuing its air medical missions. If Arizona continues the service, costly improvements are necessary and various funding options should be explored to bring operations up to standards.

Helicopters are an integral part of rescue operations and have been for many years. Helicopters are well suited to handling a variety of missions, including medical (air ambulance), search and rescue, and law enforcement. For example, helicopters can be used to transport a severely injured person from the scene of an accident to a hospital much faster than ground transport. In addition, a helicopter can facilitate a search over rugged terrain in minutes as opposed to the hours it might take a ground crew to search the same terrain. Thus, helicopters are a valuable tool in the medical and law enforcement communities.

The DPS Aviation Division Provides A Variety Of Services

Over the past 20 years, the DPS Aviation Division has expanded to provide multiple air rescue services throughout the State.(1) In 1972 DPS was authorized to acquire and operate two public safety helicopters. Since that time, the DPS fleet has increased to five helicopters which are based at four locations in the State.(2) These helicopters form the

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(1) Although the DPS Aviation Division consists of fixed-wing and helicopter units, only DPS helicopter operations are addressed in this report.

(2) DPS helicopters are based at Phoenix (Central Air Rescue), Tucson (Southern Air Rescue), Flagstaff (Northern Air Rescue), and Kingman (Western Air Rescue).

core of a Statewide, 24-hour a day emergency response system, operating seven days a week. The system provides emergency service for medical, search and rescue, critical law enforcement and other operations.(1) By statute, medical missions take precedence over other missions.(2) Over the past two years, medical missions have accounted for more than one-half of all DPS helicopter missions (see Table 2).

TABLE 2

DEPARTMENT OF PUBLIC SAFETY
SUMMARY OF MISSION STATISTICS
FOR AVIATION DIVISION AIR RESCUE UNITS
FISCAL YEARS 1988-89 AND 1989-90

Types of Missions	Fiscal Year 1989	Fiscal Year 1990
Medical		
Highway medevac	787	718
Nonhighway medevac	343	376
Hospital transfers	694	585
Total Medical	1,824 (57%)	1,679 (56%)
Search and Rescue	299 (9%)	243 (8%)
Law Enforcement		
Criminal	274	321
Traffic	45	25
Total Law Enforcement	319 (10%)	346 (11%)
Other Missions	765 (24%)	757 (25%)
Total Missions - all types	3,207 (100%)	3,025 (100%)

Source: Office of the Auditor General staff analysis of DPS Aviation Division data on the types of missions flown by DPS Aviation Division Air Rescue Units for the period July 1, 1988 through June 30, 1990.

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(1) Although private air ambulance companies currently operate out of Phoenix and Tucson, only DPS provides Statewide coverage. In addition, the private companies do not provide search and rescue or law enforcement service.

(2) Under current statute, DPS is not mandated to provide air medical service. A.R.S. §41-1834.A states "For the primary purpose of providing the most timely, efficient and comprehensive emergency medical services possible, the director may, subject to the availability of funds, purchase, equip, staff and be responsible for maintaining aircraft, including helicopters, or may lease or contract for such equipment and services..."(emphasis added)

DPS flies air rescue missions all over the State and, given limited resources, the current placement of DPS helicopters appears to be an optimum utilization of these limited resources. As the map on page 20 indicates, by basing units in Phoenix, Tucson, Flagstaff, and Kingman, DPS is able to achieve the optimum response time of 60 minutes or less in serving all areas of the State except the far southwestern corner (Yuma) and the northeastern border (Four Corners to Springerville). In addition, at the direction of the Legislature, DPS is also attempting to provide part-time coverage during the summer months to the Show Low area by alternating units from Flagstaff and Phoenix. However, when these helicopters are covering the Show Low area, the areas in Phoenix and Flagstaff from which the helicopter is pulled are without service. In the future, additional units may be needed to cover those areas of the State with increased population growth.

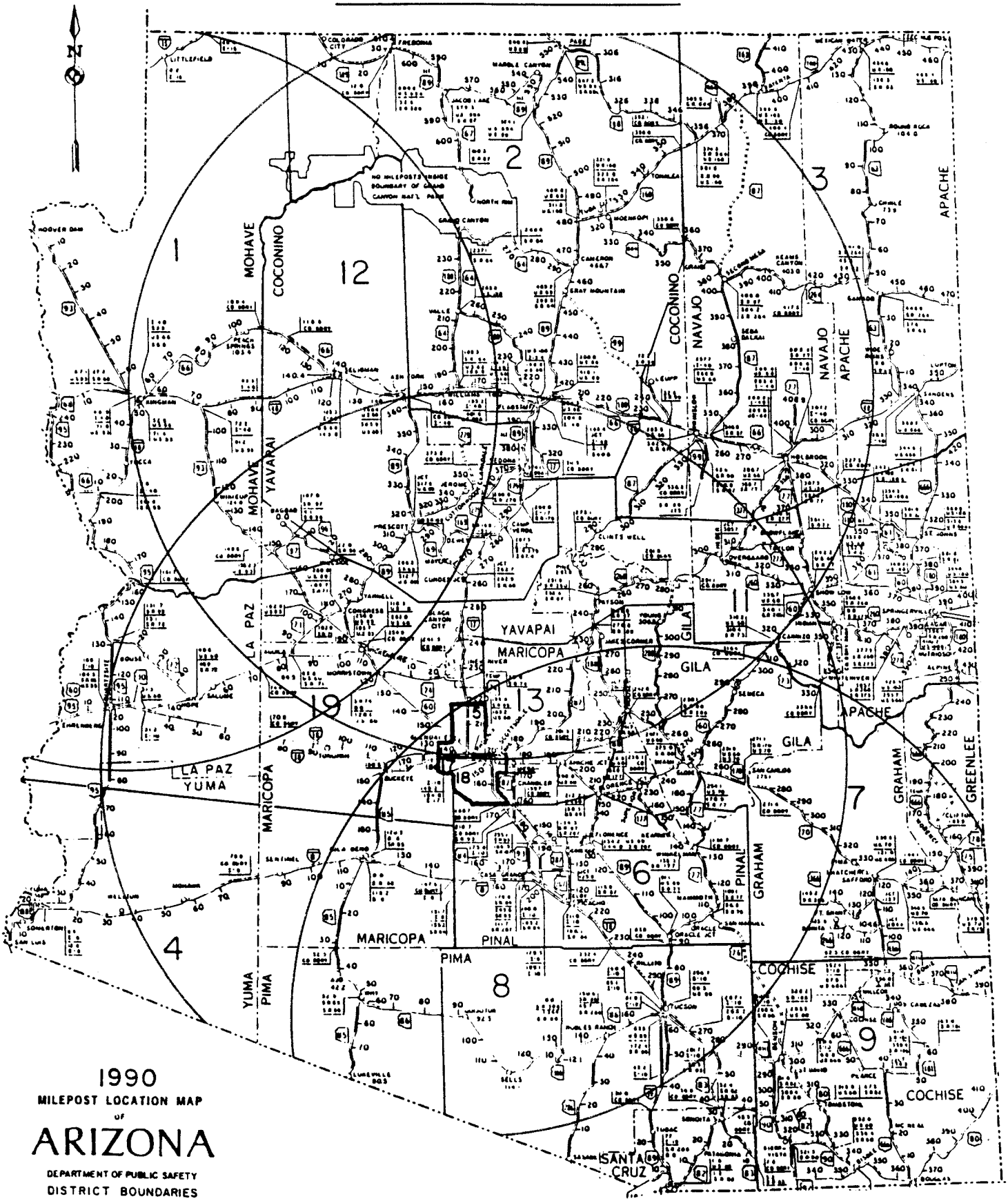
Current Level Of Air Rescue Operations Is Inadequate

Equipment, training, and staffing inadequacies negatively impact DPS air rescue operations. The single-engine helicopters that DPS uses are not appropriate or adequate for all missions. In addition, DPS lacks some equipment considered standard for the types of missions it flies. Further, DPS pilots do not receive the required safety training on a regular basis and documentation of pilot safety training is inadequate. Finally, certain aspects of the medical staffing do not meet standards and industry practices governing quality of care.

Helicopter limitations and equipment deficiencies impact DPS's ability to perform missions safely - The single-engine helicopter used in air rescue operations is inadequate for some missions. Although the single-engine helicopter is a good helicopter, it is not suited for the types of missions DPS flies. Since DPS flies missions during the day and night and in inclement weather, these helicopters limit the performance and safety of some missions.

FIGURE 1

SIXTY MINUTE RESPONSE FOR EXISTING AIR RESCUE UNITS



- Inadequate power may pose a threat to patient and crew safety. According to an aviation consulting firm, the single-engine helicopter used by DPS "does not have the power and capability to safely land, takeoff, and perform its primary mission over much of the terrain in which it operates. High density altitudes, high desert temperatures, gusty winds, heavy payloads and a variety of conditions places the aircrews and aircraft in jeopardy on many flights."[1] Consequently, these helicopters allow pilots little margin for error or for changes in conditions that require more power.

- The single-engine's lack of power also limits the number of patients and/or crew that can be transported at one time. The Committee on Trauma of the American College of Surgeons recommends that air ambulances "...have sufficient space to accommodate at least two trained medical persons and at least two litter patients...." Further, Arizona statutes dictate that DPS helicopters must be able to carry two stretcher patients, a pilot, and paramedic. However, the Flagstaff unit generally carries only the pilot, one paramedic, and one patient because of the higher altitude's impact on the helicopter's ability to fly. The other three air rescue units that fly with a pilot and two medical crew members, rarely carry two patients because of the difficulty in caring for two critical patients at one time. However, if there was a need to carry two patients, the ability of the single-engine helicopter to handle the additional weight is questionable. In some instances, these units are forced to leave equipment or a crewmember behind in order to get the helicopter off the ground to complete the mission.

- The interiors of the DPS helicopters also fail to meet State requirements for private air ambulances, as well as some specifications recommended by national experts.[2] For example, none of the DPS helicopters have adequate stretcher clearance as required by Department of Health Services air ambulance regulations. The American College of Surgeons' Committee on Trauma also recommends that air ambulances have sufficient space with the patient area so configured that life-saving care, such as CPR, can be administered in flight. However, none of the DPS units are able to accommodate two stretcher patients and still provide sufficient space to adequately care for patients. In addition, numerous other deficiencies exist, including the lack of air conditioning and inadequate storage space.

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(1) In February 1989, the State of Arizona's Aviation operations were reviewed by M and M Protection Consultants at the request of Risk Management.

(2) Although DPS is exempt from Department of Health Services regulations, the DPS air rescue units fly the same type of medical missions as private carriers. At our request, DHS inspected the DPS helicopters applying the same criteria used in evaluating private carriers.

We found the DPS single-engine helicopters have some serious limitations. The national trend is toward using twin-engine helicopters because they allow for a greater margin of safety. Twin-engine helicopters can also carry a greater number of passengers over a longer distance and provide a faster response to medical emergencies. Two separate consultants have recommended that the Department seriously consider replacing the current helicopters with twin-engine helicopters. Four of the six air ambulances operated by private carriers in Arizona are twin-engine helicopters.

In addition to the limitations of the single-engine helicopter, the completion of DPS missions may be delayed and unnecessarily complicated because DPS Air Rescue Units lack sufficient equipment. Although the helicopters have been re-configured to accommodate medical and other missions, the units still lack some of the essential equipment.

- DPS does not consistently carry some vital medical equipment required by DHS for private air ambulances and common in caring for critical care patients. Patients transported by DPS are generally critical, in keeping with their guideline of providing medical transport only in "life and limb threatening situations." Examples of medical equipment commonly utilized in treating critical care patients are respirators, pulse oximeters, and intravenous infusion pumps. None of the DPS units have respirators. In addition, IV pumps, which regulate the administration of potentially toxic intravenous medications, are available only on two of the four units. Base hospitals recognize the importance of IV pumps, and two of them have even provided IV pumps for DPS at the hospital's expense. Further, pulse oximeters, which indicate the level of oxygen in the blood going to the brain and other vital organs, are not commonly carried on all DPS medical missions. Private air ambulances in Arizona are required to carry all of this equipment on board the aircraft.

- DPS aircraft lack hoist capability, limiting their ability to complete rescue missions. Hoist capability allows the aircraft to retrieve an external load (i.e., a stranded mountain climber) and lift it into the aircraft in a controlled manner. Currently, rescue missions are accomplished by removing the doors from the helicopter and slinging a long rope under the belly and through the fuselage of the aircraft. Once the object of the rescue is retrieved, it cannot be brought up into the aircraft but remains swinging below until the helicopter arrives at a place to set it down.

DPS's inability to retrieve external loads in a controlled manner has resulted in several adverse consequences. For example, in one instance the weight of a rescued hiker coupled with a wind change resulted in the pilot overtorqueing the helicopter.[1] Because the hiker was not attached to a hoist, he could not be lowered to safety, and the swinging motion of his weight on a long line made the helicopter (otherwise) uncontrollable. In addition, while retrieving the remains of two victims recovered from an airplane crash, the pilot could not control the helicopter due to the additional weight and swinging motion of the two victims hanging below the aircraft. The recovered bodies had to be released to prevent the helicopter from overtorqueing or crashing.[2]

- Although all DPS Air Rescue Units are available for night missions, the equipment utilized in night missions is insufficient. All DPS units are equipped with the mounting and electrical hook-ups for the Forward Looking Infrared Radar system (FLIR) but the Division owns only one FLIR unit. FLIR is used to conduct search and rescue or law enforcement missions at night, because it detects body heat and enables the crew to locate otherwise unseen persons. In addition, the Division has only one pair of adequate night vision goggles to enhance the safety of night missions.

DPS's lack of adequate equipment to perform its missions is serious but, given its financial limitations, many of these equipment deficiencies are beyond the Department's ability to control. However, other areas which are within DPS's ability to control have been neglected.

<u>Lack of training may affect safety</u> - DPS does not appear to be in compliance with established pilot safety training requirements. According to Federal Aviation Administration and industry standards, programs for ongoing pilot safety training should be developed and followed. DPS has established a Pilot Safety Training Committee and has developed a training manual identifying the intervals and types of continuing safety training. We reviewed the training files of all 22 DPS pilots in an attempt to document compliance with specified training requirements and found minimal documentation to indicate that pilot training requirements were being met. Examples of the types of training required and the results of our compliance review follow.

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(1) An overtorque occurs when the capacity of the drive train is exceeded. This results in damage to the rotor hub.

(2) Even if the helicopters were equipped with hoist capability, it is doubtful that the problem would be completely alleviated as the helicopter still would not have adequate lift capability.

- Recurrent training consists of both ground school and flight training, including emergency procedures and aircraft performance, and is to be provided every 12 months to each pilot. Because this training involves potentially hazardous procedures, DPS aircraft are not utilized. According to DPS training files, recurrent training was last received by some pilots in 1989. No recurrent training was provided in 1990, but is planned for 1991. Consequently, almost 24 months will have elapsed before DPS pilots receive this training again.(1)

- In-house training consists of standardization training and evaluation, special mission task training, and other necessary training. According to DPS policy, standardization training is to be provided twice per year for each rotor-wing pilot. However, evidence of pilots receiving this training was documented in only 12 cases. In addition, special mission task training, which is to be conducted at least annually, was documented for only five pilots; training for four of these five occurred between September and November 1990 -- dates coinciding with the dates of our audit. Thus, none of the DPS pilots were found to be in compliance with the safety training manual requirements.

Training is recognized as a necessity by DPS and the industry. As previously noted, DPS missions are flown under conditions that are much more demanding and require a higher degree of skill and experience than most flight operations nationally. However, in keeping with our file review findings, staff at three of the four units indicated that they had not been conducting in-house training because of excessive downtime and a lack of staff. The absence of training documentation may result in DPS's inability to adequately defend pilot competency in the event of an accident.

Quality of care is not ensured - In the area of medical staffing, DPS's operations do not meet some national standards and/or industry practices. National standards, which are followed by the private air ambulance community, require specialized training in the effects of air

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(1) Prior to fiscal year 1990 DPS funded recurrency training annually; in fiscal year 1990 training funds were cut as a result of budget reversions. Risk Management funded DPS's pilot recurrency training in fiscal year 1990, and recently provided DPS with over $100,000 for pilot recurrency training in 1991. For fiscal year 1992, DPS has not requested any funding for helicopter pilot recurrency training and plans to rely on Risk Management to provide the funding for this training even though Risk Management has stated they will no longer fund DPS's pilot training costs.

transport on critically injured patients, aircraft and flight safety, and other areas unique to the air ambulance environment. DPS paramedics do not receive this specialized training in air medical transport.

National air medical standards also specifically require two medical caregivers on board, and that one of these caregivers be a nurse if a critical care patient is involved. The nurse/medic configuration is already the accepted standard of private air medical carriers; however, only two of the four DPS units meet these standards.

- The Tucson and Kingman units are staffed with a DPS medic and a flight nurse. The nurse is an employee of the base station hospital.
- The Phoenix unit medical staff consists of a DPS medic and a Phoenix Fire Department medic.
- The Flagstaff unit is staffed with one DPS medic.[1]

In addition, DPS's ability to ensure paramedics are providing adequate care is restricted because the Department lacks a standardized quality assurance program. DPS has no internal controls over the licensure and certification of its paramedics, and their medical knowledge and level of medical skill are not readily monitored. According to the Association of Air Medical Services (AAMS)[2], "The quality and appropriateness of patient care provided by the air medical service shall be continuously reviewed, evaluated and assured through the establishment of a quality control mechanism." In apparent recognition of the importance of medical supervision, DPS has defined the duties of both a medical quality assurance nurse and a medical director; however, neither position actually exists. Instead, DPS relies on the base station hospitals to provide medical supervision and monitoring of medical skills as well as quality assurance. We found the degree of quality assurance and skills monitoring provided by the four base stations varies greatly. Without an ongoing quality assurance program, the State's ability to defend the qualifications and competency of DPS paramedics would be compromised should a malpractice suit be filed.

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(1) Given the current single-engine helicopter, the Flagstaff unit would not be able to complete medical missions with another caregiver on board because the high altitude limits the weight that can be carried.

(2) DPS is a member of AAMS, a professional organization for air ambulance service providers.

Helicopters Are Frequently Unavailable For Service

DPS helicopters are routinely out of service for maintenance. Although some downtime is to be expected, DPS's helicopter downtime is longer than necessary for various reasons.

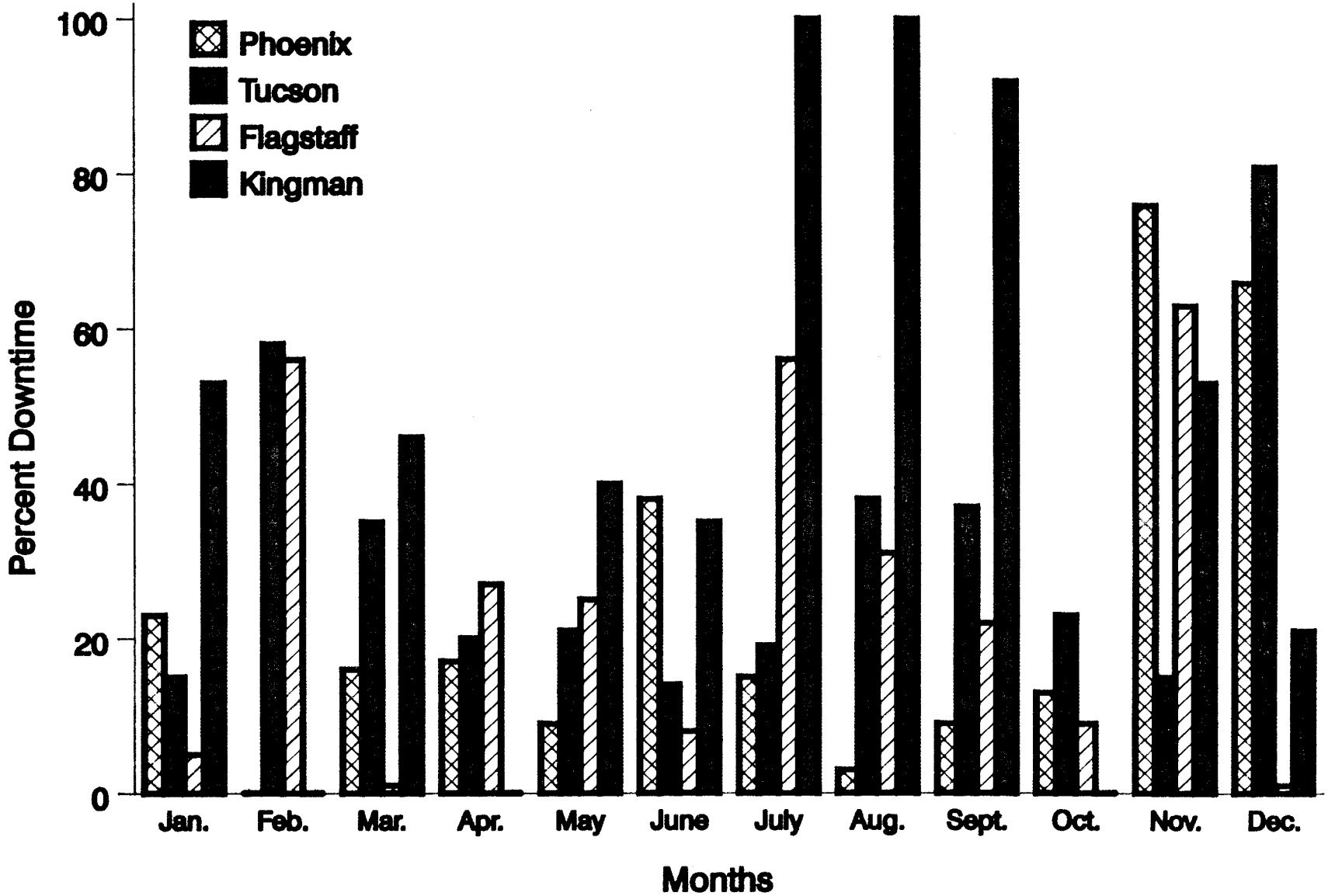
Frequent downtime impacts DPS's ability to provide service - Although the quality of DPS maintenance is considered excellent by the Air Rescue Units, downtime is a problem that was cited by both the units and the agencies that use the service. As the table on page 27 indicates, DPS helicopters are frequently out of service. During calendar year 1990, DPS helicopters were out of service, on average, 31 percent of the time. Downtime varied from 24 percent at the Phoenix unit to 45 percent at the Kingman unit. At one point, all five DPS helicopters were out of service several days for maintenance.

Downtime not only affects the Department's ability to provide service, it also has a negative impact on the credibility of the service. DPS Air Rescue Units are out of service so frequently that some agencies no longer even try to request assistance. The importance of minimizing downtime is illustrated in the following incidents that occurred in rural areas served by DPS Air Rescue Units during times these units were out of service.

- A four-year old child with a head injury had to wait four hours before a fixed-wing plane arrived to transport him to Barrow's Neurological Institute where he died later that day.
- A patient needing microsurgery for the repair of severe arm and hand lacerations had to be transported by ground, which resulted in a delay of four hours.
- An 11-month old infant who had suffered a head injury had to wait over four hours for transportation, and again a fixed-wing plane had to be used to transport him to Barrow's Neurological Institute where he died later the same day.
- The victim of a diving accident had to be transported by boat, ground ambulance, and fixed-wing plane that resulted in a total transport time of about four hours. Because of the delay in receiving definitive care, the victim continued to have medical problems.

TABLE 3

DEPARTMENT PUBLIC SAFETY
AIR RESCUE UNIT DOWNTIME FOR CALENDAR YEAR 1990



Source: Office of the Auditor General staff analysis of DPS-Aviation Division data on the downtime of Air Rescue Units for scheduled and unscheduled maintenance during calendar year 1990.

Reasons for downtime vary - Several factors impact the availability of DPS helicopters.

- **Scheduled maintenance** - A significant portion of downtime is due to the periodic scheduled maintenance that the helicopters receive. Maintenance and inspection of aircraft components are scheduled at specified intervals. For example, 100-hour inspections are scheduled approximately every six weeks. However, the amount of time the helicopters are out of service is impacted by the mechanics' work schedules. Even though the air rescue operations provide 24-hour daily service, mechanics work only an eight-hour day shift. In addition, mechanics are not allowed to work on weekends or evenings when overtime or compensatory time would be incurred. If mechanics were scheduled on a second shift or were allowed to work overtime, the amount of downtime could be decreased.

- **Unscheduled maintenance** - Another cause of downtime is unscheduled maintenance resulting from "critical incidents" and other unforeseen repairs. Critical incidents include overtorqueing (the result of the pilot pulling too much engine power and exceeding the capacity of the drive train, which in turn damages the rotor hub), and overtemping (engine overheating either as a result of too much fuel being injected during start-up or flying in extremely high desert temperatures).

- **Older helicopters** - The age of DPS's helicopters has also contributed to the downtime. As helicopters age the associated maintenance required to keep them operating safely increases. DPS helicopters average eight years in age and have flown an average 4,000 flight hours. The age of DPS helicopters coupled with the fact that the Department operates them at or near maximum capacity, increases the amount of maintenance these helicopters require.

In October 1990, to alleviate downtime, DPS put a fifth helicopter into service as a backup when other aircraft were out of service. However, this fifth helicopter has been in service at the Kingman Unit since it became available -- Kingman had been without a helicopter since June 1990 due to a crash. Therefore, DPS essentially does not have a backup helicopter to replace any of the other helicopters when they are out of service.

Arizona Needs To Decide Whether To Continue To Provide Medevac Services

Arizona needs to decide whether to continue providing Statewide, 24-hour medevac service. Arguments exist for both eliminating and retaining the air rescue service. If continued, there are a variety of funding options available.

Circumstances warrant considering relinquishing medevac service - Currently, the need for DPS to provide air rescue service is unclear. In addition, there are a number of operational deficiencies that impact the safety of the missions DPS flies. The cost to upgrade to an adequate level of service would cost the State millions of dollars.

- The need for DPS to continue to provide air rescue service is not clear - When DPS air rescue service began in 1972, it was the only medevac provider in the State. However, now there are two private air ambulance services in Phoenix, and two in Tucson. These private companies provide the same type of medevac missions that DPS provides, including responding to accident scenes and conducting hospital transfers. In fact, two private companies have expressed their concern with DPS providing medical air rescue services in the urban areas of the State. (For more information, see Other Pertinent Information, page 45). In addition, another private carrier has considered establishing medical air rescue service in the Cottonwood area, but has been reluctant to do so given the existence of a DPS air rescue unit in Flagstaff. Finally, one of the companies in the Phoenix area has indicated a willingness to provide Statewide coverage from its central base.

  State involvement as a primary provider of medevac service is unusual. We contacted the six other southwestern states (California, Utah, Nevada, Colorado, New Mexico, and Texas) and found only California provides air medevac services similar to those in Arizona. However, unlike Arizona, California's medevac missions are flown as a backup to private provider services. Nationwide, about 80 percent of air ambulance services are hospital-based, 10 to 15 percent are offered through public agencies, and the remaining services are either military or independent operations.

- Current operations have numerous deficiencies - As stated previously, the present fleet of single-engine DPS helicopters lacks adequate power to safely land, take-off, or perform missions over much of Arizona's terrain. Further, DPS does not meet nationally recognized standards. While the DPS air rescue fleet was "state of the art" when it was begun in 1972, the standards have changed since then and DPS has not kept up with the changes. For example, national standards developed by the Association of Air Medical Services (AAMS)

recommend having two caregivers on board and that at least one of these be a nurse when a critical care patient is involved. DPS medical missions, by definition, involve patients with life or limb threatening conditions. However, DPS is unable to provide two caregivers for its Flagstaff unit, and the Phoenix unit does not utilize a nurse/paramedic configuration (it utilizes two paramedics). In addition, DPS has not implemented a quality assurance program, although such a program is recommended by national standards. Finally, DPS lacks critical medical equipment. Department of Health Services standards for medical equipment require that private air medical providers carry an intravenous infusion pump, a pulse oximeter, and a respirator. DPS air rescue units are not equipped with these items.

- Cost to upgrade is significant - Currently, the Aviation Division budget is $3.9 million, including the fixed-wing operations. Most of the budget -- $2.6 million -- is expended for personnel costs for the Division's 60 FTEs. Upgrading air rescue operations equipment to a level commensurate with the number and type of missions flown will require extensive additional funding for both equipment and operating costs. As previously stated, the Aviation Division currently operates only single-engine helicopters. We obtained cost estimates for several different types of twin-engine helicopters suitable for DPS missions (including medical modifications and specialized search and rescue equipment). These helicopters range in cost from approximately $2.2 million to $4 million. In addition, maintenance and other costs of a twin-engine helicopter are estimated to be about double the cost of the single-engine helicopter. (Specific cost information associated with several different types of twin-engine aircraft can be found in Appendix I.) Therefore, replacing the single-engine helicopters with twin-engine helicopters will be costly.

  A consultant who reviewed DPS operations for our Office believes that obtaining two twin-engine helicopters would address the areas of greatest need. One could be placed in Flagstaff where increased lift capacity is necessary to accommodate the higher elevation. The other could be centrally located in Phoenix to facilitate accessibility across the State. Replacing these two single-engine helicopters with the least expensive twin-engine helicopters would cost an estimated $4.4 million. Further, the estimated annual operating costs for these two units would increase by at least $220,000.(1) The two single-engine helicopters could either be used as backups or sold. In either case, consideration should be given to equipping the remaining single-engine helicopters with the necessary, but currently lacking, medical and search and rescue equipment.(2) As detailed in Table 4, this equipment would cost approximately $161,000 per helicopter.

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(1) This estimate was arrived at by taking the difference between the manufacturer's estimated hourly operating costs of $366 for the least expensive twin-engine helicopter, and the estimated hourly operating cost of $196 for the single-engine helicopters currently in use by DPS, and multiplying the difference by the number of flight hours for the Phoenix and Flagstaff air rescue units for 1989-90.

(2) Hoist equipment necessary for search and rescue operations is not included here since according to Aviation Division staff, the current single-engine helicopters would not be able to handle the additional weight of the hoist. Although the helicopters could be equipped with hoists, they would not be functional unless DPS removed other equipment.

TABLE 4

EQUIPMENT COST ESTIMATES

Type of Equipment	Estimated Unit Cost
Respirator	$ 2,000 - $3,000
Pulse Oximeter	$ 1,500
Intravenous Infusion Pump	$ 1,500
Night Vision Goggles[a]	$ 14,000 each pair
Forward Looking Infrared Radar	$135,000 one unit

(a) To facilitate use of the goggles, helicopter interior lighting will need to be changed at a cost of $7,000 to $8,000 per helicopter.

Source: DPS Aviation Division officials and DPS 1991-93 strategic plan.

Strong arguments also exist for continuing DPS medevac service - Although there are many reasons for the State to consider discontinuing medevac services, if services are discontinued, some citizens may be left without adequate air transport services. The rural areas of the State would be most impacted by termination of DPS service. For example, rural areas experience a higher mortality rate; the motor vehicle rate mortality is 1.6 times higher in rural than urban areas. Contributing to the increased mortality rate in the rural areas is a slower response time and limited access to adequate medical care. A 1989 **"Rural Emergency Medical Services Special Report"** indicates that helicopter service should be used in instances where time, distance, medical personnel need, or scene isolation warrant it. Many of the towns and cities outside Arizona's two major metropolitan areas meet these criteria.

Currently, there are no private helicopter services operating out of the rural areas. DPS is the only helicopter provider located in the Flagstaff and Kingman areas. Although a private service has expressed interest in operating out of Cottonwood, given the costs and necessary patient volume, it is unclear whether a private service would actually be willing to locate and operate in the rural areas. Without DPS

helicopters or a willing private provider, the northern areas of the State would have to wait for a helicopter or fixed-wing aircraft to be dispatched from another area -- however, it takes a helicopter as long as 90 minutes to travel 150 miles.

In addition to impacting the rural areas, the urban areas may also be impacted if DPS medevac service were discontinued. The DPS helicopters in Phoenix and Tucson are able to handle the overflow of cases from the private carriers. In addition, DPS helicopters are able to provide free service to those who need medevac but do not have insurance to pay for it.

If DPS air medevac service is continued, various funding options are available - Several alternatives should be explored to generate revenues to fund DPS operations.

- **Surcharges** - A one-time or recurring surcharge could be adopted to generate needed revenues. In 1987, Maryland implemented a one-time $5 surcharge on motor vehicle registrations since highway accidents were the most frequent use of the air ambulance service. This one-time surcharge generated about $30 million and allowed Maryland to purchase needed twin-engine helicopters. In Arizona, based on 1990 vehicle registrations, a $5 surcharge would generate about $15.5 million. However, some other source of continual funding would also need to be adopted.

- **Special Tax** - Assessing a hospital bed tax or State gasoline tax are two options for generating additional operating revenue. Since hospital transfers and highway medevac calls constitute more than 40 percent of DPS's missions, taxing these areas would appear to assess those most likely to benefit from the service. Based on 1990 gasoline sales, a one-half cent per gallon tax on gasoline would generate annual revenues of $8.6 million.

- **General Fund Appropriation** - The Legislature could increase appropriations for the DPS Aviation Division. This is the most common method of funding found in other states we contacted. However, appropriations of this type should be designated solely for the Aviation Division. Maryland's air medevac program continues to receive general fund monies, as the one-time surcharge monies were used for capital equipment.

- **User Fees** - Although statutes currently prevent DPS from charging for its service, a statutory change could allow user fees to be assessed for medical missions.[1] Other agencies have successfully implemented user fees for various reasons. For example, the Phoenix Fire

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(1) While many of the patients transported by DPS are probably uninsured, most insurance companies will cover the cost of medically-necessary air transportation.

Department initiated fees to offset the cost of their ground ambulance service and collected over $4 million in user fees in 1989. Based on an average industry charge of $1,700 for intensive care transport and assuming a 60 percent collection rate, over $1 million could be generated annually. However, DPS opposes implementing a user fee for its air rescue service.

Actual revenues that could be realized by implementing any, or a combination of the options listed above are unknown. However, any additional funding for this service should be stable and dedicated for the purpose of upgrading the service and safety level of the DPS Air Rescue Units. If the State is to continue providing this service, it is clear that proper funding for Aviation Division operations should be a priority.

RECOMMENDATIONS

1. The Legislature needs to decide whether DPS should continue to provide medevac service, taking into consideration the identified operational deficiencies; the need for the service, particularly in the rural areas; and the cost to bring the service up to an acceptable level.

2. If the service is to be continued, the Legislature should consider upgrading the service by:

   - considering funding options to generate the revenues necessary for upgrading helicopter operations;

   - equipping DPS with two, light to medium, medically equipped twin-engine helicopters with hoist capability. Priority should be given to placing these helicopters in Flagstaff and Phoenix. To offset the cost of the new helicopters, the existing helicopters could be sold, or used as backup aircraft to minimize downtime; and

   - providing funding for DPS to acquire medical equipment it currently lacks, such as ventilators, pulse oximeters, and IV infusion pumps. In addition, funding should be provided for DPS to obtain equipment, including night vision goggles and FLIR, for night flights.

3. If medevac service is not to be continued, the Legislature should amend A.R.S. §41-1834 to delete the provision for air medical service. In addition, based on new priorities, DPS will need to study the current placement of helicopters and reassign paramedics that will no longer be needed for air rescue operations.

4. DPS management should insist on the maintenance and documentation of pilot knowledge and skills by fully implementing and funding the existing training program.

5. DPS should assure the quality of patient care by instituting a comprehensive quality assurance program, including training of medics in aeromedical patient care and the implementation of a program to assure the identification and remedy of paramedic knowledge and skill deficiencies. This could be accomplished by the appointment of a quality assurance nurse (or medic) at an administrative level.

FINDING III

CHANGES MAY BE NEEDED IF THE CRIME LAB IS TO CONTINUE TO MEET THE NEEDS OF ITS USERS

Although in the past eight years its workload has increased more than twice as fast as its resources, the DPS Crime Lab has been able to meet the needs of law enforcement agencies and prosecuting attorneys. However, if the Crime Lab workload continues to increase, these needs may not be met. Despite management actions to address the increasing workload, backlogs are now developing. Additional changes may be needed to maintain the current level of service in the future.

Lab's Diverse, High Quality Services Are Important In The Criminal Justice System

DPS has four regional crime labs that provide a number of important services, primarily analytical, to law enforcement agencies throughout the State. These important services can support prosecutors in court, provide investigative officers with leads, and exonerate innocent suspects. The lab is recognized by peers and the law enforcement community for its high quality work.

The Crime Lab is a crucial part of Arizona's criminal justice system. Comments from some of the Arizona prosecutors we interviewed[1] indicate that lab analysis is one of the most important services DPS provides. They told us that crime lab work is essential in most drug possession cases to prove that the substance seized is an illegal drug. Furthermore, lab analysis plays a key role in many prosecutions of violent crimes as well as crimes against property.

Lab services are diverse - The Crime Lab provides a wide range of services at four regional labs in Phoenix, Tucson, Flagstaff, and Mesa,

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(1) We interviewed two city prosecutors, an assistant United States attorney, and county attorneys (or deputy county attorneys) in 12 Arizona counties to obtain their perspective on the importance of crime lab work, the level of service they receive from the DPS Crime Lab, and our recommendations for changes.

and in FY 90 served, at no charge, 284 municipal, county, State, and Federal law enforcement and other agencies. Most DPS Crime Lab services are analytical:

- Trace analysis examines many different items including hair, fibers, glass fragments, paint chips, bullets, shoe prints, arson residue, and auto headlight filaments; determines whether two items are from the same source, e.g., if paint on a hit-and-run victim is from a particular car or if a bullet was fired by a specific gun; and identifies the source of unknown items.

- Toxicology analyzes blood and urine samples for the presence of alcohol or drugs and supports the State's Drug Recognition Expert (DRE) program in which police officers learn to recognize drug-impaired drivers.

- Serology analyzes biological evidence such as blood and semen, and, based on blood type, enzyme factors, and DNA characteristics, determines the probability that the evidence came from a particular person.

- Controlled substances performs analysis to identify substances suspected of being illegal drugs, and assists in safely dismantling clandestine drug laboratories.

- Intoxilizer, recently assumed from another DPS division, maintains breath analysis machines (intoxilizers). The laboratory sends known alcohol concentration solutions to law enforcement agencies throughout the State, and analyzes the samples that result from running the solutions through the agencies' intoxilizers, in order to verify that the units are properly calibrated.

- Latent prints compares fingerprints on objects with those of a suspect. This function was transferred to the Crime Lab from another DPS division in July 1990.[1]

In addition to analysis, the Crime Lab provides several other services. Lab staff help officers search for and collect evidence at crime scenes. In court, lab criminalists provide expert testimony, including a description of their analysis, the results, and the scientific basis of their laboratory tests. The lab also regularly conducts training for law enforcement officers, and staff make presentations at other classes, seminars, and professional meetings.

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(1) Because the latent prints and intoxilizer functions were not part of the DPS Crime Lab until recently, we did not include their cases in our review.

Crime Lab does high quality work - The DPS Crime Lab system is highly regarded. Unlike most state crime labs, Arizona's lab system meets the high standards for accreditation by the American Society of Crime Laboratory Directors (ASCLD).[1] The Federal Bureau of Investigation selected Arizona as one of six states to take part in a pilot program for a nationwide DNA database system. The Crime Lab's instrumentation and analytical capabilities are state-of-the-art, important for successful prosecution.

Prosecuting attorneys told us that DPS criminalists' testimony has never been successfully challenged in court. Several prosecutors characterized DPS criminalists' testimony as excellent, objective, and professional.

DPS has provided this high quality service in spite of a workload that has increased faster than the number of staff over the past several years.

Workload Has Increased, But Lab Meets User Needs

The DPS Crime Lab's workload has increased substantially in the past ten years. At the same time, the number of staff has increased, but not to the same extent as the number of cases. Although the lab has a backlog and is sometimes slow to complete its work, prosecutors reported the lab meets trial dates and cooperates with other requests for expedient services.

Workload has increased - As shown in Figure 2 (see page 38), the number of cases submitted to the Crime Lab increased 86 percent in the eight-year period from fiscal years 1983 through 1990. At the same time,

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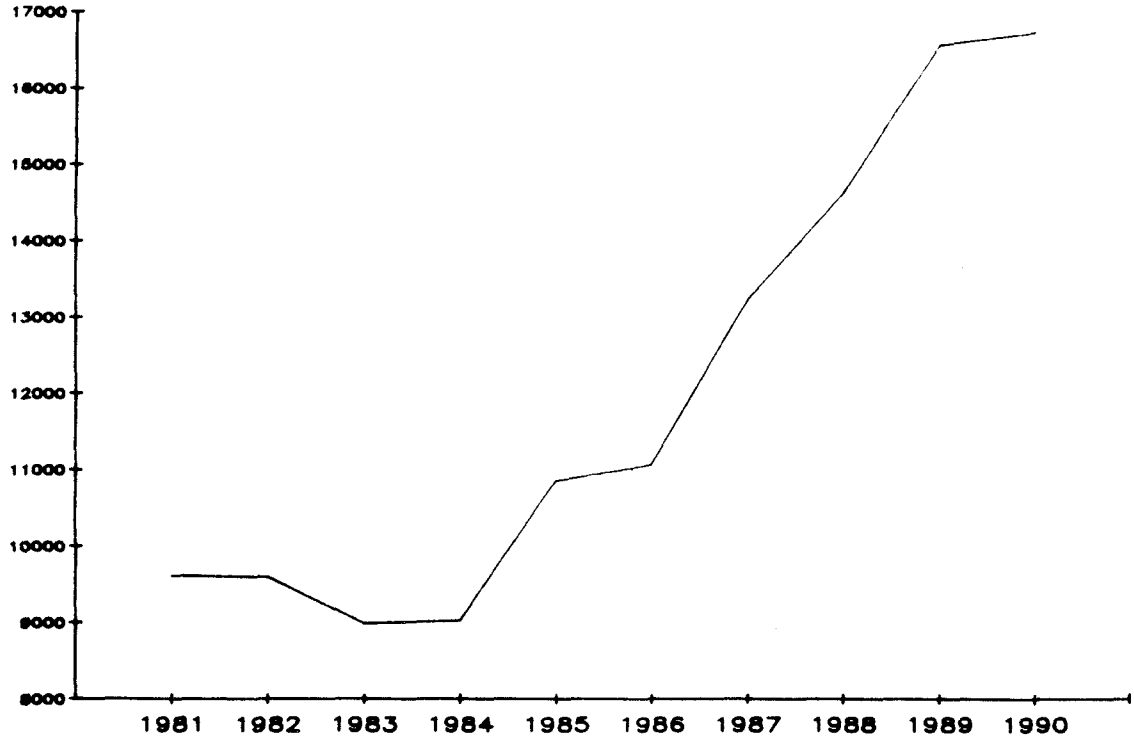
(1) As of January 1991, ASCLD had accredited a total of 77 crime labs in 17 states, including state-operated crime labs in 11 states. For accreditation, a crime lab must have a quality control program encompassing internal case review and proficiency testing for laboratory staff, and must submit to an inspection by a team of peers that review the lab's management and operations, personnel qualifications, procedures and instruments, physical plant, equipment, and security. The DPS lab was one of the first to become accredited.

the methods used at the Crime Lab for analysis became more complex and time consuming. For example, courts used to accept a simple chemical color test as proof of white powder drug identification. Now, criminalists perform a complex analysis using Gas Chromatography and Mass Spectrometry, which takes about twice as long as the older method. Similarly, advanced technologies enable serologists to perform much more accurate tests; however, these tests require much more time to complete than the simpler techniques previously used. For example, ten years ago, a single item of evidence in a sexual assault case required about two or three hours to process, and the serologist's testimony was limited to stating whether or not the substance analyzed was semen. Today, the same item requires a minimum of two or three days to analyze, but the serologist is now able to match the blood group and blood enzyme types against those of the person suspected of the crime. Crime Lab staff

FIGURE 2

DEPARTMENT OF PUBLIC SAFETY
CRIME LAB CASES COMPLETED
FISCAL YEARS 1983 THROUGH 1990



Source: The Office of the Auditor General staff compilation of information from the DPS Crime Lab database system.

explained that prosecutors cannot offer evidence in proof of the State's case based on outdated methods of analysis because defense attorneys can argue that more advanced methods could exonerate their clients.

Staff levels have not increased as much - Although the Crime Lab's staff resources have increased, staffing levels have not kept pace with the increase in workload. From fiscal years 1983 to 1990, the number of scientists on the lab's staff increased from 33 to 47, a 42 percent increase. During the same period, the number of cases increased by 86 percent. Furthermore, much of the increase in staff was due to grant-funded positions that may not be continued. As of April 9, 1991, 16 of the lab's staff (seven drug criminalists, three toxicology criminalists, two latent print examiners, two lab technicians, and two clerical staff) were employed under temporary grants.(1) These grants are for a limited time. As of fiscal year 1990, the Crime Lab had increased the number of its permanent, State-funded staff by only four, 12 percent of the fiscal year 1983 level.

Lab meets user needs - Despite the growing workload that has impacted its ability to meet its 30-day goal for case completion, the lab continues to meet the critical needs of its users. Some of the prosecutors we surveyed told us the lab is often slow to complete cases, but they reported little impact on cases due to the slow turnaround. When trial dates are set or results are needed urgently for other reasons, prosecutors told us the lab always responds to their needs. Officials at some law enforcement agencies also said that although the lab is slow to complete casework, it does meet critical deadlines. They also told us that lab staff respond promptly when asked to assist at crime scenes, and when telephoned for advice or information.

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(1) These grants are from the Governor's Office on Highway Safety, the U.S. Department of Justice War on Drugs program, the Criminal Justice Enhancement Fund, and the Rocky Mountain Intelligence Network.

Although lab staff meet or exceed the productivity standards we identified[1], as of January 7, 1991 the lab had a backlog of 819 cases over 30 days old.

DPS has adopted several methods to ensure that prosecutors receive results in time for court and law enforcement agencies receive information and results needed for investigative leads. Some lab policies eliminate needless work:

- When officers submit blood samples for both alcohol and drug tests in DUI cases, the lab performs the simpler test for alcohol first, and performs the more complex drug test only if the alcohol test is negative.
- Similarly, the lab analyzes drug evidence before paraphernalia, and generally does not analyze the paraphernalia if drug tests reveal a usable quantity of a drug.

In both instances, the needs of the prosecutor take precedence over DPS policy, and DPS will do the additional work if the prosecutor insists.

In addition to eliminating unnecessary work, DPS has taken steps to improve lab efficiency and service to user agencies.

- DPS prioritizes cases according to the degree of urgency: cases with a scheduled court date have highest priority, then investigative leads, followed by crimes against people and, lastly, crimes against property.
- Lab management may reassign cases among the four regional labs to balance workloads.
- The Phoenix and Mesa labs have installed automated equipment in their toxicology units that performs tests overnight.
- As mentioned earlier, to improve evidence collection, the lab responds to requests for assistance at crime scenes.
- All four labs use the same standard written methodologies, enabling criminalists to operate more efficiently.

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(1) In a telephone survey of crime labs in 11 states, two cities, and two Federal agencies, we obtained the productivity standards used in some of these labs. In addition, we reviewed an ASCLD publication that reported summary statistics on the average number of cases per criminalist per month processed at labs that responded to an ASCLD survey. DPS criminalists in all specialties except latent prints, which was not compared, met or exceeded the standards we identified.

Future Growth May Require Changes

Although DPS Crime Lab management has taken appropriate steps to enable the lab to meet users' needs, additional changes may be necessary to handle future growth. Some, but not all of these changes can be adopted with little or no additional funding.

Efforts to conserve lab services would require little or no additional funding - Crime Lab services are a valuable, but finite resource. As with natural resources, conservation is one strategy for addressing a demand that threatens to exceed the supply. Further eliminating unnecessary work, and/or work that can be performed by other sources, can help to reserve the lab's services for the most complex analyses that only it can perform. Such a strategy would require little or no additional funding.

- **Improve communication with prosecutors** - Better communication with prosecutors could eliminate some cases from the lab's workload. The lab does make an effort to discuss cases with prosecutors. However, our survey of prosecutors indicated the Crime Lab does some needless analysis, and our follow-up of older cases on the lab's pending list confirmed this. Generally, although investigating officers request lab work, prosecuting attorneys use the results. Prosecutors told us the lab sometimes conducts analysis requested by a police officer without knowing the prosecutor has already reached a plea agreement and has no need for the results. DPS should establish a procedure for contacting prosecutors before starting work on a case.

- **Train police officers to identify marijuana** - DPS could reduce its caseload up to one-third by training police officers to perform the simple analysis required to identify marijuana in cases involving less than a pound. In three states that have officers with such training, the Crime Lab analyzes marijuana only in large-quantity or unusual cases. Adopting such a policy in Arizona could save a substantial amount of criminalist time, although the lab would probably need to continue providing this service to some smaller rural agencies. DPS should work with prosecutors and the law enforcement community to develop a program for implementing this policy.

- **Contract out some lab work** - If private labs contracted to perform toxicological work in drunk-driving cases, DPS could substantially reduce its caseload. Several states send drunk-driving cases to another state-supported laboratory or contract them out to private labs, instead of having the state crime lab do this work. In Arizona, law enforcement agencies already rely on private labs for the toxicological work associated with probation conditions. Prosecutors reported they would be willing to rely on a contractor's analysis. DPS should investigate the potential for contracting out drunk-driving cases.

If toxicological tests for drunk-driving are contracted out, we believe serious consideration should also be given to requiring the agencies requesting the tests to pay for them. (Some agencies are, in effect, already paying for these services by performing the tests in their own laboratories.) We question whether the State should assume the general responsibility for funding services that local governments can readily obtain from their own or private labs. Instead, we believe the lab's limited resources should first be spent on services that cannot be obtained elsewhere or on services that would be too costly to duplicate. DPS could, however, still perform such tests, should circumstances make it critical to do so.

Other changes would require funding - In the future, further changes will be needed so the lab can address and meet increased workload and ensure continued good service to user agencies. These changes cannot be made without additional funding. As economic conditions permit, the Legislature should consider the following changes.

- Make grant-funded staff permanent - The Legislature should consider authorizing additional full-time employees to enable the lab to hire grant-funded staff permanently when temporary State and Federal grants expire. In fiscal year 1991, the Crime Lab is authorized to employ seven criminalists, two latent print examiners, and a clerk typist under a grant from the United States Department of Justice for the War on Drugs program, and three additional criminalists under a grant from the Governor's Office of Highway Safety for the Drug Recognition Expert (DRE) program. However, each of these grants is for a limited time. The DRE grant is scheduled to be phased out completely during fiscal year 1992. The War on Drugs program grant is renewed every six months to one year, but can be used to fund an individual program for a total of only three years. DPS also has a secretary, and a lab technician under a grant from the Criminal Justice Enhancement Fund. In addition, another lab technician is funded under a grant from the Rocky Mountain Intelligence Network.

  Losing its grant-funded staff would impair DPS's ability to address its workload. These staff make a significant contribution to the lab. Most grant positions are in the controlled substances and toxicology specialties, and these areas now have a better record of expedient service than other areas of the lab. Hiring these staff as regular State-funded employees would have the additional advantage of allowing DPS to assign them according to workload demands, rather than limiting them to the duties defined by the grant contracts.

  Furthermore, the loss of grant-funded staff could cost the State thousands of dollars in lost training costs. For example, training each War on Drugs grant criminalist who has no previous experience involves approximately 160 hours of experienced staff time over the period of about a year, at a total cost of almost $3,500. The DRE grant program is even more expensive: each trainee requires 12.5 weeks of experienced staff time, a cost to the State of over $10,000. Five grant-funded criminalists quit DPS in 1989 and 1990, and a sixth quit in early 1991 after receiving six weeks of

training. Lab management believes the insecurity of grant-funded positions contributed to the loss of these staff.

- <u>Increase use of lab technicians</u> - Some DPS criminalists might be able to spend 15 to 20 percent more of their time on casework if the lab hired additional lab technicians to perform support tasks. In our survey of crime labs, we found that some state, local, and Federal labs use technicians extensively, freeing their professional criminalists to spend more time "on the bench." These labs use technicians for a variety of tasks, including calibrating instruments, conducting preliminary screening tests, and performing simple analysis such as marijuana identification. DPS lab management estimates that if the lab had one technician for every six criminalists, each criminalist not currently served by a technician could spend an additional 15 to 20 percent of his or her time on casework, instead of on such duties as preparing reagents, ordering and stocking supplies, and sanitizing work areas. New lab technicians start at a salary of $23,712 per year, while the lab's current staff of criminalists earns an average of $38,324 per year, so the State could reduce costs by making greater use of lab technicians.

Adopting some or all of these options could enhance the Crime Lab's ability to handle its increasing workload and improve its timeliness in processing the current caseload.

<u>RECOMMENDATIONS:</u>

1. As economic conditions permit, the Legislature should consider authorizing additional FTEs

   - to allow DPS to transfer grant staff into State-funded positions when current grants expire; and

   - to hire additional lab technicians, and utilize them to free criminalists to spend more time on casework.

2. DPS should establish a procedure for contacting prosecutors prior to beginning lab analysis to avoid conducting unnecessary work.

3. DPS should consider shifting small marijuana case analysis to local agencies, except in special circumstances.

4. DPS should investigate the potential for contracting drunk-driving toxicological work to private labs, and requiring the agencies requesting the work to pay the costs.

OTHER PERTINENT INFORMATION

During the audit we obtained information on the Department's competition with private air medical services, the Aviation Division's difficulties in obtaining and retaining experienced managers, and a state-of-the-art analytical technique that DPS is implementing in its Crime Lab.

Competition With Private Air Rescue Service

DPS's involvement with medical air rescue service is perceived as competition by two of the four private providers in Arizona. The purpose of DPS Air Rescue helicopters is to provide medical, search and rescue, and law enforcement services to Arizona's residents and visitors. This service is provided free of charge as DPS is statutorily prohibited from charging. However, medical missions(1), which are the Department's top priority, are also provided by private companies in the Phoenix and Tucson areas. Unlike most State agencies, DPS is not prohibited from providing a service that is also offered by private enterprise.(2)

We spoke with all four private air ambulance services in Arizona. Two of the companies were not concerned about competition from DPS. However, the other two -- one based in Tucson and the other in Phoenix -- expressed concerns regarding DPS's involvement with medical air rescue. While representatives of the Phoenix-based company expressed some concern at having to compete for business with a publicly funded provider, representatives of the Tucson-based company actively voiced their dissatisfaction.

During the past year, the Tucson-based, air medical transport provider has met and corresponded extensively with Legislators and DPS staff

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(1) Medical missions performed by DPS include highway and nonhighway medevac, and hospital transfers (the movement of a patient from one hospital to another). Often a patient is moved to receive a higher level of care. While some transfers are valid emergencies that require immediate attention by the first available helicopter, other transfers may be able to wait for several hours.

(2) DPS is exempt from A.R.S. §41-2752 that prohibits competition with the private sector.

regarding the use of DPS helicopters for hospital transfers and other missions. In March 1990, the Tucson company wrote a letter to three State Legislators claiming that DPS helicopters regularly transport patients between healthcare facilities at no charge. Two of the hospitals we spoke with indicated that they intentionally call DPS for hospital transfers if the patient is uninsured because it is a free service. However, the company argues that in many cases, private air ambulances could be used for these transfers. They also note that persons requiring interfacility transfers often have health insurance that would pay for a private carrier. Thus, DPS involvement with these transfers deprives private air ambulance companies of revenue.

Between March and November 1990, the Tucson company wrote at least five letters to Legislators and four letters to DPS regarding their concerns about DPS's involvement with hospital transfers and other types of missions. The initial letter in March resulted in a meeting of DPS, State Legislators, and the Tucson company officials to discuss the use of DPS helicopters for hospital transfers. In addition, the company raised another concern regarding the Emergency Medical System Communication's (EMSCOM) policy of dispatching only DPS helicopters even though a private helicopter may be able to respond faster.(1) DPS responded to the company's allegations; however, none of the correspondence we reviewed indicated that DPS intended to make any changes to address the interfacility transfer issue. We reviewed DPS Air Rescue mission data and found the volume of hospital transfer missions, specifically in the Tucson area, appeared high. For example, the DPS Tucson unit conducted more hospital transfers during fiscal year 190 than the remaining three DPS units combined. In fact, hospital transfers accounted for 37 percent of all missions flown by the Tucson DPS unit during fiscal years 1988-89 and 1989-90.

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(1) DPS is statutorily designated as the EMSCOM system manager. EMSCOM's primary responsibility is to connect emergency field responders (ambulance, fire department, etc.) with a hospital or medical facility for medical direction. Except for the DPS helicopters, EMSCOM performs no dispatching functions. EMSCOM receives requests for helicopters by radio and/or telephone, and relays the necessary information (location, type of call, etc.) to the appropriate DPS Air Rescue Unit crew. If a request is for a helicopter other than a DPS helicopter, the dispatcher relays the telephone numbers of other air ambulance providers or Tucson MEDs, or the dispatcher will call the requested helicopter service directly (if the request is received over the radio).

DPS management has recently taken steps to reduce the number of hospital transfer missions conducted by the Department. According to a DPS official, management has instructed unit staff to follow previously established written procedures that define appropriate requests for transfers as those that involve emergency life- or limb-threatening situations. In addition, DPS officials have begun visiting hospitals to educate hospital personnel to identify those situations that constitute an appropriate reason to call a DPS helicopter for a transfer.

We recently contacted the Tucson company and found that their attitude toward DPS's involvement with hospital transfers has improved. According to the company president, the company has begun to receive hospital transfer requests from facilities that, in the past, had typically been served only by DPS.(1) However, the company still has additional concerns that have not been resolved to its satisfaction.

- **Use of DPS helicopter for inappropriate missions** - In September 1990, an incident occurred that caused the company to again lodge a complaint regarding the inappropriate use of a DPS helicopter. On September 11, a Tucson DPS helicopter transported a TV cameraman at no charge to the scene of an accident. According to the complainant, the footage taken from the helicopter was shown on the evening news. At the time of this incident, the Tucson company had three helicopters available for service.(2) Company representatives feel that DPS involvement in these areas is hurting their business.

  In response to the company's concerns, DPS's initial letter fails to even address the use of the DPS helicopter for transporting the TV cameraman. However, a subsequent DPS letter states that the company has a valid point "regarding the specific incident...concerning transportation of a television reporter." In this letter, DPS agrees to clarify its position with the press in the future.

- **EMSCOM dispatching concerns** - An ongoing and serious concern of the Tucson company is EMSCOM's policy of dispatching only DPS helicopters and ignoring available private sector helicopters. The company alleges that EMSCOM dispatches only DPS helicopters to emergency situations even though other private medical helicopters may be much closer. Company officials claim that this practice jeopardizes lives and places the State of Arizona in a position of serious liability.

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(1) DPS management could monitor the hospital transfers it handles to ensure they meet established criteria. If DPS continues hospital transfers one strategy to alleviate the problem would be to consider charging for the service.

(2) The Tucson company alleges that this incident is not an isolated case and cost the company $549.00 (the amount the company would have charged the TV station for the flight.)

We looked into the dispatching of helicopters in the Tucson area and found that in addition to EMSCOM, Tucson MEDS also dispatches helicopters. If Tucson MEDS receives an emergency request for a helicopter, they dispatch the closest unit available whether it is a DPS or a private provider helicopter. In contrast, EMSCOM (which is under the control of DPS) dispatches only DPS helicopters and makes no effort to determine if a private provider's helicopter may be closer.

We contacted the DPS assistant director of telecommunications to clarify DPS's policy regarding the dispatching of private helicopters. According to the assistant director, EMSCOM does not and will not dispatch for private helicopter services. EMSCOM will direct a call to a private air ambulance service if the caller requests a specific private air ambulance company. In addition, if a DPS helicopter is requested and none are available, EMSCOM will ask the officer or responsible party at the scene if another helicopter service is desired and if so, the call is routed to the service. EMSCOM dispatchers do not monitor the locations of private helicopters and are therefore unaware of which unit may be closest. The assistant director said that most of the requests for helicopters that are handled by EMSCOM are received from DPS highway patrol officers that are responding from the scene of an accident. Further, he explained dispatchers are not responsible for determining the appropriateness of the call or whether another private air ambulance company may be able to respond faster. The dispatcher's responsibility is to relay the information to the appropriate DPS Air Rescue Unit, not to make decisions. In his opinion it is the responsibility of DPS Air Rescue Unit staff to determine the appropriateness of the call. Thus, this concern continues to be unresolved.

Aviation Division Lacks Experienced And Consistent Management

The current structure of the Aviation Division, coupled with high turnover make it difficult to obtain and retain managers with aviation experience. The Aviation Division is overseen by three lieutenants and a captain. Because of the current structure of the Division, when vacancies occur in the lieutenant positions, these positions are filled from outside the Division. DPS policy requires that in order to be promoted to lieutenant, one must first be a sergeant. However, the Aviation Division has no sergeant positions. Thus, experienced DPS pilots and medics (Officer IIs) do not meet the criteria for promotion to lieutenant positions. As a result, the Aviation Division has generally been managed by former Highway Patrol Bureau personnel with little or no prior aviation or medical experience.

Although Highway Patrol personnel can, with time, learn the special requirements of aviation and air rescue operations, turnover negates the learning process. Once needed specialized knowledge and experience have been gained, the lieutenants tend to move on to other positions within the Department. Since 1984, the average tenure of lieutenants managing the operations sections of the Division has been 11.5 months. Further, the position of captain, which manages the lieutenants, has also been unstable -- average tenure has been 20.2 months since 1984.

Survey Of Users Of Air Rescue Services

As part of our review of air rescue services, we conducted surveys of the users of these services. The purpose of the survey was to find out how well DPS was meeting the service needs of its rural users. While DPS maintains records of missions it has conducted, there is no record of how many times a helicopter is needed, but not available. To obtain this information, we surveyed a sample of sheriff departments, fire departments and hospitals in rural counties of the State.(1) These users were asked, for a one-month period, to complete survey forms each time a helicopter was needed. (See Appendix II for copies of survey instruments).

We received a total of 198 forms documenting different incidents where a helicopter was needed.(2) Of these responses, 62 percent were for medical missions, 16 percent were for search and rescue, and 13 percent were for law enforcement; the remaining 9 percent were for "other" incidents. As evidenced, the majority of the requests concerned medical missions; this corresponds to DPS 1989-90 mission data where medical missions accounted for 56 percent of all DPS air rescue unit missions.

DPS was the carrier most frequently called to provide air rescue service; this is not surprising given the rural locations surveyed and the lack of private air rescue service companies in the rural areas. However,

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(1) Rural counties surveyed included Cochise, Coconino, Gila, Graham, La Paz, Mohave, Navajo, Yavapai, and Yuma.

(2) An additional nine forms were received, but arrived too late to include in the analysis.

private carriers were also called and generally were able to respond. DPS air rescue units were initially contacted in 85 (75 percent) of the 113 incidents in which air transportation was requested. DPS was able to respond to 67 of these incidents (79 percent). In contrast, private companies were initially contacted in 27 of the cases in which air transportation was requested, and were able to respond to 24 of the 27 incidents (89 percent). Overall, in 83 percent of the cases where a helicopter was requested, air transport was provided.[1] However, the number of calls actually received understates the need and availability of air rescue service because no attempt was made to request a helicopter in 40 percent of the instances where one was needed. In 85 of the 198 incidents, a helicopter was not called because the user knew a helicopter was unavailable. However, in 17 of these 85 cases a fixed wing plane was available and used.

DNA Testing

The DPS Crime Lab is presently implementing DNA testing, a technique for analyzing biological evidence found at the scene of a crime. The process gives the criminalist many times the power of conventional serology to accurately identify the source of biological evidence. Using conventional serology, under the best conditions, a criminalist may be able to testify that the evidence would not have fit 98 percent of the population. With DNA testing, the criminalist may be able to state with a much greater degree of certainty that the evidence would have fit only one person.

Using grant monies from the Criminal Justice Enhancement Fund, DPS has begun implementing DNA testing. Arizona will be one of the first five states in the West with this capability. DNA evidence analyzed by private labs has already been used successfully in some Arizona criminal prosecution cases. For example, DNA testing was an important factor in the Flagstaff trial of a man who was convicted of the murder of a nine-year-old girl.

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(1) The overall percentage is slightly higher due to the availability of another provider other than the one initially requested.

DNA testing is more complex than conventional serology. Conventional serology involves a series of tests to determine the nature of the evidence and to compare the blood type and enzyme types present in the evidence with the known samples from the suspect and victim. It takes a minimum of two or three days. If DNA testing is required, the criminalist performs the DNA analysis after completing the conventional serology work. The DNA technique involves separating DNA from a sample of biological evidence, adding "restriction enzymes" to break the DNA into fragments, separating the fragments by subjecting them to an electric current, adding a radioactive probe which binds to "target fragments," and exposing X-ray film to the substance. The X-ray film will then show a characteristic pattern of bands. The serologist compares the DNA pattern from the evidence sample with the DNA pattern from blood drawn from the suspect and victim. DNA analysis can take up to eight weeks for a single case, largely because of the time required for the X-ray film to develop a visible pattern.

In analyzing biological evidence, DNA testing has major advantages over conventional serology. First, the technique can be used on a wider range of biological evidence including blood, semen, skin, and hair. Second, DNA analysis gives the serologist much greater certainty that the evidence does or does not match the suspect and/or victim.

Both methods involve statistical probabilities. With conventional serology, the serologist uses the known incidence of blood types and enzyme types in the population to state the probability that the evidence would fit a specific person. In DNA analysis, the serologist uses the results of four different probings, each associated with a different statistical probability of occurrence in the population. The individual probabilities are then multiplied to arrive at an overall probability that the sample came from a particular person. Conventional serology can provide a high degree of certainty, especially if rare enzyme types are present, and will continue to be an important part of the Crime Lab's services. However, if evidence is found in sufficient quality and quantity, DNA matching can virtually identify a specific person, thus strengthening the prosecutor's case in court.

DPS has made preparations to begin accepting DNA casework in early 1991. Crime Lab serologists have received training provided by the FBI, and the technique has been successfully defended in pretrial "Frye Hearings" (hearings that determine if the results of a new technique may be presented in court). Currently, DPS staff are analyzing blood samples that will be used as a statistical database for stating the degree of probability that a sample of biological evidence is from a particular person.

AREA FOR FURTHER AUDIT WORK

Our audit work focused on those areas within the Criminal Justice Support Bureau with the most pressing concerns. However, during the course of our audit we found that the Questioned Documents Unit may be inadequately funded and understaffed. The Unit consists of three examiners (the same number of staff the Unit had 18 years ago). Most of the work done by the Questioned Documents Unit is associated with white collar crime. The Unit examines documents on request for law enforcement and regulatory units to provide information on the genuineness, origin, age and authorship of a document. In addition, the unit determines whether a document has been altered or tampered with. According to the Questioned Documents Unit supervisor, a 5- to 6-month backlog existed at the time of our audit. The backlog along with the lack of additional resources has caused users to only submit high priority or high dollar amount cases. Questioned Documents Unit staff and users of the service believe that the Unit is understaffed and not adequately funded to meet the workload.

Further audit work is needed to determine utilization and efficiency of current staff, the volume and type of cases which are not submitted and the effect of not submitting them to the Questioned Documents Unit, the impact of the backlog on resolving cases, and the Division's funding needs.

ARIZONA DEPARTMENT OF PUBLIC SAFETY

2102 WEST ENCANTO BLVD. P. O. BOX 6638 PHOENIX, ARIZONA 85005-6638 (602) 223-2000

FIFE SYMINGTON
GOVERNOR

F. J. "RICK" AYARS
DIRECTOR

April 24, 1991

Douglas R. Norton
Auditor General
2700 N. Central Avenue
Suite 700
Phoenix, AZ 85004

Dear Mr. Norton:

The purpose of this letter is to respond to your April 17th correspondence regarding the draft report of the performance audit on the Department of Public Safety Criminal Justice Support Bureau. In reviewing the draft, we still have a number of concerns which will be addressed briefly and individually in the attached response. Many of these concerns were previously raised in our meetings with your audit team and our written response to the initial draft. I am once again forwarding them in the hopes that our position will be reflected in the final published report.

Sincerely,

G. W. Ross, Lt. Colonel
Assistant Director
Criminal Justice Support

SCG/maf

Attachment

FINAL RESPONSE TO THE AUDIT REPORT
Criminal Justice Support Bureau
Department of Public Safety

ISSUES THAT APPEAR IN THE SUMMARY:

- Drugs seized by the DPS evidence room are not adequately packaged.

  As discussed before, the adequacy of the evidence systems is a matter of opinion. In comparison with other agencies, DPS packaging procedures do allow for the detection of tampering and the prevention of theft.

- We have found that some agencies receiving drugs had insufficient controls to protect against drug loss.

  The DPS is not an oversight body and cannot impose policy on local agencies. Each local agency has an opportunity to review procedures with their county attorneys when filing cases. That seems to be the appropriate medium for legal procedural review.

- Current air operations are marginal due to equipment, training, and staff inadequacies.

  It is doubtful that those whose lives have been saved by the DPS Air Rescue Unit would agree that the service was marginal. It is desirable to better equip, train, and staff our air rescue units; however, some practical consideration should be given to the fiscal environment in which we operate. The most important point here is that the DPS air rescue service does save lives and will continue to improve through legislative and alternative funding sources.

- DPS helicopters were out of service an average of 31 percent of the time.

  Although down time may be higher than the average in private industry, it is due to the age of our helicopters and the Department's higher standards for safety and maintenance. Increased availability cannot be accomplished through reduced maintenance.

- DPS does not meet national standards for space in air ambulance services.

  Portions of these standards call for additional aircraft space which, although nice to have, is not critical to patient care. The length of the DPS air rescue missions into the rural areas may dictate that the fuel load is increased while the equipment load is decreased. Those decisions are made in the interest of the safest most expedient arrival at a hospital for the patients.

- There are a number of factors which might be argued in favor of discontinuing air rescue services.

  While giving consideration to discontinuing the air rescue service in this section, the audit (Page 26) offers the criticism that the helicopters are not in service enough and suggests that injuries are exacerbated by their unavailability. This would appear to be a contradiction.

- If DPS is to continue providing medevac service, extensive additional funding is needed.

  DPS has operated its air evacuation services on existing resources and could continue at the same level of service if it were necessary. The impression that continuation of the service will require an intensive influx of resources is incorrect.

ISSUES THAT APPEAR IN THE BODY OF THE REPORT:

- Page 5, Paragraph 1 - The report indicates that evidence handling controls are so weak, it is difficult to determine if drugs are missing.

  The DPS has a continuing automated inventory system that would identify any missing evidentiary items more quickly than other Arizona criminal justice agency. The packaging seals now utilized by DPS are admissible as evidence of the integrity of contraband in all courts. There are areas which can be improved; however, this statement exaggerates the effect of the exceptions discovered during the audit.

- Page 5, Paragraph 2 - Drugs are vulnerable to pilferage and substitution at all points following seizure.

  The only way to eliminate all liability would be to discontinue handling all drug evidence. Until that time, it is necessary to use the most reasonable procedures within resource limits to fulfill the responsibility of caring for all evidentiary material. It is certainly desirable to have the best procedures possible but, to a large extent, those procedures are inter-dependent with the facilities utilized for evidentiary storage. As resources become available for improved storage, the procedures can be altered as they were at the Tucson Police Department.

- Page 6, Paragraph 2 - DPS officers submit entire seizures which are stored until the drugs are approved for disposal.

  The Property Section routinely destroys all drugs seized by DPS officers; therefore, Property routinely accepts all drugs seized by DPS officers.

- Page 6, Paragraph 3 - The report leaves the impression that drugs are not weighed when they are seized.

  It has been pointed out several times that the case officer is responsible for weighing drugs shortly after seizure. That weight will be found as a notation in the Department arrest report and is used by prosecutors when filing cases.

- Page 6, Paragraph 4 - Again, the audit refers to a lack of tamper-proof packaging.

  The packaging utilized by DPS has been examined by the courts and found to be acceptable for evidence purposes. Improved tape is available and will be utilized in the future.

- Page 7, Paragraph 1 - Once again, the audit reports that weights of drug evidence are not being routinely recorded and custodians have no basis for detecting drug loss.

  As indicated earlier, the weights are routinely recorded in the Department's arrest reports. Further, tampering of boxes within the Property Room can be detected by torn tape or torn wrappings. Continuous automated inventory is maintained and reviewed by supervisors and managers.

- Page 7, Paragraph 2 - The audit suggests that DPS consider testing drugs prior to packaging.

  As indicated previously, this recommendation is inconsistent with the audit recommendation that we find ways to decrease the Crime Laboratory's workload. Qualitative drug testing prior to packaging will result in the need for additional laboratory personnel, a more complex chain of custody, increased court time, and a general degradation of our goal to provide analytical services. Improved procedures are desirable to achieve our goals but they should not become the goal.

- Page 8, Paragraphs 1 and 2 - The audit recommends separate storage facilities for drugs.

  Seventy percent of our storage is occupied by drug seizures. Without improving facilities, enlarging the storage space and adding personnel, evidentiary co-mingling will continue. Additional resources will be pursued as they have been in the past but, when a storage facility is operated by two employees, it is difficult to limit their individual access on any basis.

- Page 9, Paragraph 1 - DPS does not routinely inventory drugs.

  DPS routinely audits, through an automated system, all evidence in storage. The Tucson Police Department, which has been pointed out as the model to follow, will be adopting the DPS system as soon as they have the resources to convert from a handlog to an automated system.

- Page 9, Paragraph 1 - The audit states that poor packaging and the failure to weigh make it impossible to determine if drugs have been removed.

  The conclusion arrived at in this paragraph is faulty. Drug weights are available; The packaging procedures are acceptable by every court in Arizona. DPS employees, unlike others, all receive pre-employment polygraphs to eliminate those with a demonstrated propensity for dishonesty. As indicated to the audit team, procedures can be improved and DPS has formed a task force of criminalists and managers to identify how improvements can be implemented.

- Page 9, Paragraph 2 - DPS does not require witnesses for withdrawal of drugs for reverse stings.

  DPS does require a signed affidavit for removal of drugs used in reverse stings.

- Page 13, Paragraph 3 - DPS does not ensure that drugs are used for legitimate purposes.

  The existing procedure requires a signed letter from the chief executive of the requesting agency, a departmental report number from the requesting agency, authorization by the appropriate DPS commander and signed receipt of the reversal drugs by the receiving officers.

- Page 13, Paragraph 4 - In reviewing documentation for 29 cases of reverse sting releases, the audit team found 3 cases where the letters were not from the agency director and 6 where there was no evidence of approval by the SSD commander.

  These comments ignore the fact that a designee in the absence of the DPS commander was able to make the approval or that verbal authorization may have been given by the appropriate commander.

- Page 14, Paragraph 1 - Agencies receiving DPS drugs lack sufficient controls.

  As indicated in the correspondence requested and received by the audit team from Alicia Sterna at State Risk Management, DPS does not have liability in this matter. DPS does not have an oversight role with local agencies on their procedural policy.

Rather, that is accomplished with the county attorneys as the local cases are reviewed for filing.

- Page 16, Paragraph 1 - DPS should request LECC to develop guidelines for local reverse stings.

  LECC has no regulatory authority over local agencies. This committee can make policy suggestions but adoption is solely the purview of the local agencies.

- Page 19, Paragraph 2 - DPS air rescue pilots do not receive regular safety training.

  The training documentation can be improved and DPS is in the process of making that improvement; however, the flight safety training is being provided at an expense of $150,000 per session at some of the best locations available nationally. DPS pilot safety training meets or exceeds industry standards.

- Page 21, Paragraph 1 - Inadequate power may pose a threat to the patient and the crew.

  This statement is an exaggeration of the facts. All aircraft have performance limits and all must be operated within those limits. DPS has done that successfully for a number of years while providing the public with lifesaving services.

- Page 22, Paragraph 3 - DPS does not consistently carry some vital medical equipment.

  DPS has access to and carries vital medical equipment necessary for individual missions. This is particularly true of respirators which the audit team uses as an example of an omission. In some instances, equipment may be deleted if not required by the mission so that the helicopter fuel load and subsequent operating range may be increased.

- Page 24, footnotes - DPS plans to rely on Risk Management to fund pilot training. Risk Management stated they will no longer do so.

  Risk Management has not taken the position that loss reduction funding will be eliminated; therefore, recurrency training may still be available through this source. It has not been included in our base budget proposals because increased budgets were not an option this fiscal year. Alternate funding sources, both public and private, will be pursued, as a potential substitute.

- Page 25, Paragraph 2 - The nurse/medic configuration is an accepted standard in private air care; only 2 of 4 DPS units meet this standard.

  DPS uses flight nurses in those areas where the service is hospital-based. Where EMS is not hospital-based, our paramedics meet accepted standards through supervision by a physician.

- Page 25, Paragraph 4 - DPS lacks a standardized quality assurance program for its paramedics.

  Quality assurance is standardized by the DHS and ensured by the sponsoring physician for each paramedic unit.

- Page 25, Paragraph 4 - DPS has defined duties for a medical director but the position does not exist.

  This position has not existed in DPS since 1972 when the EMS Council became a function of DHS. The medical director's position is presumably filled by the DHS Emergency Medical Services Council Director who is a physician. DHS sets and monitors paramedic training standards.

- Page 25, Paragraph 4 - Without a quality assurance program, the State would be compromised in a malpractice suit.

  DHS has established training standards and DPS meets or exceeds those standards. Quality assurance is the role of DHS and the sponsoring physician; therefore, the State is not subject to undue liability.

- Page 26, Paragraph 2 - Frequent down time impacts DPS's ability to provide service.

  DPS safety and maintenance standards meet manufacturers' requirements and generally exceeds the industry standards. Given the age of the aircraft and the high maintenance standards, down time will result. Routine maintenance schedules are required every 50 hours which can occur quickly during peak demand periods. The emphasis placed on down time certainly points out the vital nature of our air rescue.

- Page 26, Paragraph 3 - The report provides four instances of fatalities in rural areas and infers that they were the result of DPS being unable to respond.

  Our ability to elaborate is limited by a lack of specifics from the audit staff. Apparently, the documentation is limited to "notes" from which the implications of

resulting fatalities are drawn. It is not known if DPS was even called in any of the examples cited. These inferences lack foundation and, in themselves, infer liability that is not factually established.

- Page 28, Paragraph 2 - Mechanics are not allowed to work on weekends or evenings.

  Available documentation shows mechanics submitting overtime claims for working weekends and evenings. It is desirable, of course, to minimize the amount of this time.

- Page 29, Paragraph 3 - The need to continue DPS air rescue is unclear.

  At one point in the report (Page 26), the audit team suggests that DPS is not in service enough, yet then takes the position that the need to continue the service is unclear.

  Eliminating DPS air rescue places the entire medevac operation in Arizona in the hands of private air carriers who are profit motivated and eliminates the only statewide law enforcement and search and rescue helicopter service. Removal of DPS and reliance upon private sector services in Arizona is recommended against in publications offered by the National Highway Traffic Safety Administration (NHTSA) and Dr. Spaite of the Tucson Medical Center. At the least, many Arizona citizens would be deprived of the emergency medical services offered by DPS and, as indicated by the audit team, the loss could result in lives lost.

- Page 29, Paragraph 4 - State involvement in medevac service is unusual.

  Maryland has an air medevac service at the state level that is much larger than Arizona's, while California provides a limited state service. Our service falls within this range and is therefore not unusual.

- Page 32, Paragraph 7 - User fees for medevac services.

  Statutory language prevents the adoption of user fees for EMS services. If user fees were possible through statutory changes, DPS would be competing with private providers for limited public and private funds. That would place DPS in the position of being more competitive with private enterprise which the audit recommends against.

- Page 41, Paragraph 5 - Contract for DUI lab work.

  If this practice were adopted, DPS would have to set up standards, find ways to ensure quality, and establish procedures for continuity in testing for all private labs who were low bidders for contractual work. Other states, such as Colorado, are considering moving from contract services to a central state laboratory as in Arizona.

OTHER PERTINENT INFORMATION:

- Page 45, Paragraph 2 - DPS involvement in air rescue is perceived as competition by private providers in Arizona.

  It is not surprising that any company would view anyone providing a similar service as competitive. The fact that DPS does not compete for insurance money, AHCCCS reimbursement, or other reimbursement funds distinguishes the service from that of private carriers.

- Page 46, Paragraph 1 - Private air rescue companies note that persons requiring inter-hospital transfers often have insurance that would pay for the private carrier.

  DPS, as a tax-supported entity, provides service to anyone on the basis of medical need rather than the ability to pay through insurance. DPS responds to requests for inter-hospital transfers but is continuing to work with physicians and hospitals to ensure that those missions meet DPS policy and medical need criteria.

- Page 46, Paragraph 2 - The auditors reviewed correspondence between DPS and private air ambulance services and none of the correspondence indicate a change in the DPS's position on the hospital transfer issue.

  DPS met with the private air ambulance officials regarding hospital transfers and those complaints seem to have been resolved. Additional meetings with hospital administrators and physicians have ensured that DPS hospital transfer calls are non-routine. This has resulted in a significant reduction in inter-hospital transfers over the last year and, apparently, increased business for the private carrier.

- Page 47, Paragraph 5 - EMSCOM dispatching concerns

  As outlined in the attached letter from Assistant Director Richard Carlson, the manner in which State medical helicopters are dispatched does not put lives in jeopardy. By the same token, it is not the role of the State EMSCOM system to serve as a dispatch service for private air carriers.

- Page 48, Paragraph 3 - The Aviation Division is managed by Highway Patrol personnel with little aviation or medical experience.

  One of the three Lieutenants mentioned has 14 years' experience in the aviation industry. His position is responsible for aircraft maintenance and fixed-wing operations. The other two Lieutenants have rotary wing responsibilities and primarily interact with other law enforcement officers within Arizona. The fact that they come to Aviation with established relationships in the law enforcement community serves as an asset in solving problems in both rural and metropolitan areas. It should also be noted that these Lieutenants supervise commissioned police officers assigned to the emergency medical services who may also rotate from pilot and paramedic positions into Highway Patrol positions.

ARIZONA DEPARTMENT OF PUBLIC SAFETY

INTEROFFICE MEMORANDUM

F. J. "RICK" AYARS
DIRECTOR

DATE: April 4, 1991

TO: Lt. Colonel G. W. Ross, Assistant Director; Criminal Justice Support

FROM: Mr. R. G. Carlson, Assistant Director; Telecommunications

SUBJECT: **CJSB DRAFT AUDIT REPORT**

On Page 48 of the draft audit report prepared by the Auditor General's Office on the Criminal Justice Support Bureau, it addresses the issue of EMSCOM dispatching concerns. Paragraph 3 of this page addresses the issue of policy as quoted by the DPS Assistant Director of Telecommunications relating to EMSCOM dispatch. I think this paragraph needs further explanation.

The policy statement was generated as a result of questions from the auditor asking "why don't we have the DPS dispatchers make the decision on whether or not to call for a DPS helicopter or a private air ambulance service." I indicated that dispatchers are not there to make policy decisions but are there to relay information to the appropriate individuals to make decisions. The paragraph is also incomplete in that it implies DPS EMSCOM dispatch deals only with DPS helicopters. If the request is for a DPS helicopter, the DPS EMSCOM dispatch routes this call to the appropriate DPS Air Rescue Unit. However, we also get calls requesting specific private air ambulance services. In these cases, we immediately direct the calls to the appropriate air services. We do <u>not</u> try to talk them into taking a DPS helicopter.

Additionally, if a DPS helicopter is requested and none is available, we ask the officer or responsible party at the scene if another helicopter service is desired. If they say no, we take no further action. If they request another helicopter service, we route the call to the appropriate service requested if it's in Phoenix, or in the case of Tucson, the call is routed to Tucson MEDS who handles the dispatching of the appropriate private helicopter service.

The draft report also mentions that DPS makes no effort to monitor the location of private helicopter services. The reason for this is that private helicopter services do not necessarily operate from a consistent home base. In complaints filed to DPS by private helicopter services, they make reference to the fact that their air ambulance was at location "XX" on the time and date in question, whereas, that is not necessarily the standard home base for that air service.

It is felt the existing policy is working quite well in that it provides the service to the public that they are requesting. To the best of my knowledge there has never been an occasion where an injured victim's request for an air ambulance was turned down because DPS EMSCOM dispatch would not dispatch a private air ambulance.

As previously stated, when a DPS helicopter is requested, we route the call to the appropriate Air Rescue Unit. If it is known that a specific DPS helicopter is not available as requested, we make every possible effort to comply with either the victim or the officer at the scene if an alternate service is requested.

Richard G. Carlson, Assistant Director
Telecommunications

dl

Attachment

APPENDIX I

There are several light- to medium-sized twin-engine helicopters that would meet the basic needs of all DPS missions. The following models are presented only for the purpose of comparison, and all figures are approximate.

MBB Helicopter Corporation

- Model: BO 105 LS A-3
  Description: Twin-engine, six-passenger capacity
  Useful load: 2,500 lbs.
  Cost: $2.2 million
  Operating cost per hour: $366

- Model: BK 117 B-1
  Description: Twin-engine, eight-passenger capacity
  Useful load: 3,300 lbs.
  Cost: $2.9 million
  Operating cost per hour: $530

Aerospatiale

- Model: SA 365N1 Dauphin 2
  Description: Twin-engine, twelve-passenger capacity
  Useful load: 3,900 lbs.
  Cost: $4 million
  Operating cost per hour: $577

Bell Helicopter-Textron

- Model: 412 SP
  Description: Twin-engine, fifteen-passenger capacity
  Useful load: 5,400 lbs.
  Cost: $4 million
  Operating cost per hour: $529

- Model: 212
  Description: Twin-engine, fifteen-passenger capacity
  Useful load: 5,000 lbs.
  Cost: $3.6 million
  Operating cost per hour: $393

Sources: Bell Helicopter-Textron, Ft. Worth, TX, and Emergency Aviation Consultants, Northridge, CA.

APPENDIX II

OFFICE OF THE AUDITOR GENERAL

MEMORANDUM

TO: Survey Participants

FROM: Jill Rissi
Office of the Auditor General

DATE: November 1, 1990

SUBJECT: Completion of Survey Forms

The Office of the Auditor General is currently conducting a performance audit and Sunset review of the Department of Public Safety. As part of our audit, we are studying the use of DPS' helicopters for medical, search and rescue, and law enforcement missions throughout the State. (According to DPS policy, priorities for its helicopters include: highway medevac, non-highway medevac, hospital transfers, search and rescue, vital materials transport, and law enforcement.) We want to find out how well DPS is meeting service needs. While DPS maintains records of missions it has conducted, there is no record of how many times a helicopter is needed, but not available. To obtain this information, we are surveying a sample of sheriff departments, fire departments and hospitals in rural areas of the State.

We are asking you to complete a survey form regarding requests for helicopter services. For the period starting Saturday November 17, 1990 at 0000 hours and ending December 16, 1990 at 2400 hours, please record each incident in which a helicopter was requested. Also, please record any instances in which helicopter service was needed, but not requested. (This is especially important for areas that are not currently served by a helicopter.) Please do <u>not</u> record incidents in which helicopter support would have been nice, but not essential.

Each incident should be recorded on a separate form. We'd like the individual most familiar with the incident to complete the form and to include as much information as possible. Our intent is to determine:

- Where helicopter service was needed
- Who was contacted for service (i.e., DPS Ranger or a private carrier)
- Whether a helicopter was available and if not, why
- For medical missions <u>from a scene</u>: how was the patient ultimately transferred, and to which hospital the patient was taken
- For medical missions <u>from a hospital</u>: how was the patient transferred, the reason for the transfer, and where the patient was taken

There is space on each form to record two requests for helicopter service. We left two spaces so that you can include information when more than one helicopter agency is contacted. This can include instances in which the first helicopter agency contacted was not available, or instances in which more than one helicopter was needed at the scene.

We also left space on the back of the form for you to include any additional information about the incident that you feel is important.

At the end of the data collection period, all forms for your agency or company should be collected and returned in the postage-paid envelope provided to:

Jill Rissi, Performance Audit Division
Office of the Auditor General
2700 N. Central Ave., Suite 700
Phoenix, AZ 85004

If more copies of the survey form are needed, please feel free to make additional copies (or contact our office and we will gladly provide you with the copies). If you have any questions regarding whether an incident should be recorded, or the type of information that should be included, please contact either myself or Kim Hildebrand at 255-4385 or 223-2678.

Thank you for your participation in this data collection effort. If your agency or company would like a copy of our final report, please provide me with the name and address to which the report should be sent. The final report is expected to be published in April 1991.

OFFICE OF THE AUDITOR GENERAL
Survey of Helicopter Need in Rural Areas
Field Unit Form

Agency Name:_____ **Your Name:**_____

For each incident in which a helicopter was called, or would have been called if one was available to the community, please complete the following survey. Thank you for your assistance in providing this information.

1) Report or Mission Number _____

2) Date of incident: _____ **3) Time of incident:** _____

4) Location of incident:_____

5) For what purpose is/was a helicopter needed?

a. Medical _____ b. Search/Rescue _____ c. Law Enforcement _____

d. Other (please describe): _____

6) Please briefly describe the incident: _____

_____

7) Is/was location accessible to a helicopter? _____ **YES** _____ **NO**

8) Please note any other agencies which also responded to the incident.

a._____ b._____

9) Was a helicopter called?

____ Yes (If **YES**, please continue with item number a)

____ No (If **NO**, please continue with item number 10)

a. Company or agency called: _____

b. Time called: _____

c. Name of person calling: _____

d. Was helicopter available? _____ **YES** _____ **NO**

e. Time helicopter arrived: _____

f. If helicopter not available, please indicate why:

_____ Helicopter down for maintenance or other reasons

_____ Helicopter on another mission

_____ Unknown

_____ Other _____

(Over)

- If more than one helicopter company or agency was called please complete the following information
  a. Company or agency called: _____
  b. Time called: _____
  c. Name of person calling: _____
  d. Was helicopter available? _____ **YES** _____ **NO**
  e. Time helicopter arrived: _____
  f. If helicopter not available, please indicate why:
     _____ Helicopter down for maintenance or other reasons
     _____ Helicopter on another mission
     _____ Unknown
     _____ Other _____

10) If a helicopter was not called, why was one not called?

_____ Knew helicopter was down for maintenance or other reasons
_____ No helicopter service available in the area of the incident
_____ Other _____

11) If the incident involved medical care, please answer the following:

a. Was a level I trauma involved? ____ **YES** ____ **NO** ___ Don't know
b. What was the actual mode of transport (if other than helicopter)?
   ____ Ground ambulance ____ Private vehicle
   ____ Airplane
   ____ Other _____
c. What was final disposition from scene?
   ___ Patient transported ___ Patient died ___ Refused treatment
   ___ Other: _____
d. Name of facility to which patient was transported: _____

12) Please provide any other pertinent information, such as the role played by the helicopter in addressing the situation:

_____
_____
_____

OFFICE OF THE AUDITOR GENERAL
Survey of Helicopter Need in Rural Areas
Medical Facility Form

Facility Name: _____ **Your Name:** _____

Please complete the following information for all incidents in which a helicopter was called, or would have been called if one was available to the community. Thank you for your assistance in providing this information.

1) **Patient Identification Number:** _____

2) **Date of occurrence:** _____ 3) **Time of occurrence:** _____

4) **For what purpose is a helicopter needed?**
   a. ____ Transfer for higher care
   b. ____ Transfer for specialty care
   c. ____ Doctor or Patient request
   d. ____ Other (please describe):_____

5) **Please briefly describe the situation:** _____
   _____

6) **Did your medical facility call for a helicopter?**
   _____ YES (If YES, please continue with item number a)
   _____ NO (If NO, please continue with item number 7)
   a. Name of company or agency called: _____
   b. Time called: _____
   c. Name of person calling: _____
   d. Was helicopter available? _____ YES _____ NO
   e. Time helicopter arrived: _____
   f. If helicopter not available, please indicate why not:
      _____ Helicopter down for maintenance or other reasons
      _____ Helicopter already in service on another mission
      _____ Unknown
      _____ Other _____

(Over)

- If more than one helicopter company or agency was called by your facility, please complete the following information:
  a. Company or agency called: _____
  b. Time called: _____
  c. Name of person calling: _____
  d. Was helicopter available? _____ YES _____ NO
  e. Time helicopter arrived: _____
  f. If second helicopter not available, please indicate why:
     _____ Helicopter down for maintenance or other reasons
     _____ Helicopter already in service on another mission
     _____ Unknown
     _____ Other _____

7) If a helicopter was not called, why not?

_____ Knew helicopter was down for maintenance or other reason
_____ No helicopter service available in the area of the incident
_____ Other _____

8) Was the patient a level 1 trauma? _____ **YES** _____ **NO** _____ Unknown

9) What was the actual mode of transport medical facility opted to use, if other than helicopter?

_____ Ground ambulance _____ Private vehicle
_____ Airplane
_____ Other _____

10) What was the final disposition of the situation?

_____ Patient transported _____ Patient expired
_____ Patient remained at facility
_____ Other (please describe): _____

11) Where was patient transported to: _____

12) Please provide any other pertinent information, such as the role of the helicopter in addressing the situation:

_____

_____

OFFICE OF THE AUDITOR GENERAL
Survey of Helicopter Need in Rural Areas
EMSCOM Dispatch Form

For any request for a helicopter, please complete the following survey form. Thank you for your assistance in providing this information.

1) **Name of dispatcher completing form:** _____

2) **Date of request:** _____ 3) **Time of request:** _____

4) **Name of requesting agency:** _____

5) **Requesting agency's report number (if available):** _____

6) **Location of incident:** _____

7) **For what purpose is/was a helicopter needed?**
   a. Medical _____ b. Search/Rescue _____ c. Law Enforcement _____
   d. Other purpose _____

8) **Please briefly describe the incident:** _____
   _____

9) **Is/was the location accessible to a helicopter?** _____ YES _____ NO

10) **Was a helicopter called?**
   _____ YES (If YES, please continue with item number a)
   _____ NO (If NO, please continue with item number 11)
   a. Which helicopter was called? _____
   b. Time called _____
   c. Name of person calling helicopter: _____
   d. Was helicopter available? _____ YES _____ NO
   e. If helicopter not available, please indicate why:
      _____ Helicopter down for maintenance or other reasons
      _____ Helicopter already in service on another mission
      _____ Unknown
      _____ Other _____

(Over)

- If more than one helicopter company or agency was called, please complete the following information:
  a. Which helicopter was called: _____
  b. Time called: _____
  c. Name of person calling helicopter: _____

  d. Was helicopter available? _____ **YES** _____ **NO**
  e. If not available, please indicate why:
     _____ Helicopter down for maintenance or other reasons
     _____ Helicopter already in service on another mission
     _____ Unknown
     _____ Other _____

11) If a helicopter was not called, why not?

_____ Knew helicopter was down for maintenance or other reasons
_____ No helicopter service available in area of the incident
_____ Other _____

12) Please provide any other pertinent information regarding the request for and/or dispatch of a helicopter for this situation:

_____
_____
_____
_____