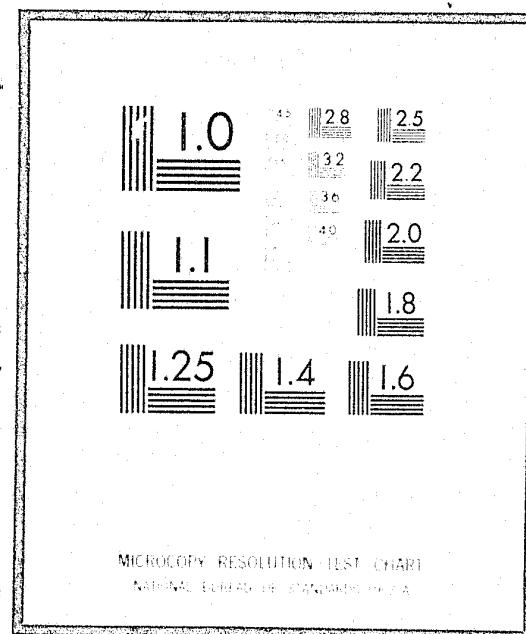# NCJRS

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.

1.0   2.8   2.5
      3.2   2.2
      3.6
1.1   4.0   2.0
            1.8
1.25 1.4   1.6

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
NATIONAL CRIMINAL JUSTICE REFERENCE SERVICE
WASHINGTON, D.C. 20531

8/24/77

Date filmed.

K-77-104

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
POLICE TECHNICAL ASSISTANCE REPORT

SUBJECT: Virginia Criminal Justice Services Commission;
                    Evaluation of a Manual Training Records System

REPORT NUMBER: 77-1

FOR: Virginia Criminal Justice Services Commission

CONTRACTOR: Westinghouse National Issues Center

CONSULTANT: Donald P. Fleming

CONTRACT NUMBER: J-LEAA-003-76

DATE: February 1977

CONTENTS

TABLES

Foreword

This request for technical assistance was made by the Virginia
Criminal Justice Services Commission. The requested assistance was
concerned with evaluating an existing records system covering com-
pliance with legally required training of all State and local public
safety, fire, alcohol control, and corrections officers. Effective
November 1, 1976, private security services personnel were also
covered. A simple, manual file system is now used to maintain more
than 28,000 cards in 11 State and local files covering the training
status of individuals.

Requesting Agency: Virginia Criminal Justice Services
Commission; Mr. Raymond Geisen,
Executive Director, and
Mr. L. T. Eckenrode, Assistant
Director

State Planning Agency: Virginia Division of Justice and Crime
Prevention; Mr. Bruce E. Brennan,
Professional Development Coordinator

Approving Agency: LEAA Region III (Philadelphia);
Mr. Ronald V. Nichols, Technical
Assistance Monitor

1. INTRODUCTION

The Criminal Justice Services Commission of Virginia, formerly called the Criminal Justice Officers Training and Standards Commission, was established by legislation in 1968. The Commission employs a staff of 12 full time people, including 6 field representatives. The Commission serves the entire population of Virginia, approximately 5,000,000 people, by acting as the regulating and recording agency for all training redords of the State Police, local and county police, city and county sheriffs, including courtroom security officers; the local fire marshals, and the Enforcement Division of the State Alcoholic Beverage Control Board. The Commission also regulates the training records of the State Department of Corrections, Division of Adult Services, and the correctional officers of local and regional law enforcement entities. Effective November 1, 1976, new legislation substantially increased the responsibilities of the Commission by expanding its role to include the regulation of training records for private security services business personnel.

As of June 1976, there were approximately 350 law enforcement agencies and approximately 8000 full-time State and local law enforcement officers in Virginia. Each of the 95 counties has an elected sheriff, and all cities, most towns, and some counties maintain police departments. In addition, there are approximately 10,000 private security services personnel.

The problem that was addressed in this technical assistance assignment concerns the Commission's recordkeeping system. This system is presently a manual file system made up of approximately 28,000 3- by 5-inch index cards contained in an electro-mechanical rotary tray file device.

During the course of performing this technical assistance, the Consultant discussed the problems with the following individuals:

- o   Mr. Raymond Geisen, Executive Director
      Virginia Criminal Justice Services Commission.

- o   Mr. L. T. Eckenrode, Assistant Director,
      Virginia Criminal Justice Services Commission.

2. UNDERSTANDING OF THE PROBLEM

After a preliminary review with Messrs Geisen and Eckenrode of the Criminal Justice Services Commission, it was agreed that the objective of this initial technical assistance would be to analyze the Commission's present recordkeeping system, to review all appropriate enabling legislation, and to assess the impact of all new requirements (i.e, regarding private security training records).

The objectives of this report are to offer alternatives appropriate for increasing the capacity of the present manual system and to make recommendations concerning the alternatives. Attention was also given to external factors such as new State law requirements and State budget restrictions.

In 1968, the General Assembly of Virginia enacted to the Code of Virginia a law that established a Commission originally called the Law Enforcement Officers Training Standards Commission. The law was subsequently amended to be called the Criminal Justice Officers Training and Standards Commission. An amendment enacted in November 1976 (Section 9-107.1) abolished the previous Commission and created the Criminal Justice Services Commission. The amended legislation expanded the role of the Commission to include an auditing function in the area of criminal history record information, and a new records requirement encompassing the recording of training records for all persons engaged in the private security services business.

Although the training required varies somewhat, depending on the department/jurisdiction, the basic requirements maintain that personnel shall complete basic (or initial) training, in-service (or periodic) training, and in certain circumstances specialized training such as supervisory or instructor.

It is not the Commission's role to do the training but rather to maintain a tracking type of record system on all individuals subject to the training requirements, to audit compliance, to maintain a record of approved schools and courses, and to establish standards in all of these areas.

3. ANALYSIS OF THE PROBLEM

The Criminal Justice Services Commission's present recordkeeping system consists of 11 files, which are arranged as shown in Table 3-1.

All law enforcement personnel covered by the training requirements must successfully complete a basic (or initial) training program from an approved school. The deadline for successful completion is 12 months from date of employment.

All law enforcement personnel must also successfully complete periodic in-service training programs from approved schools. The period required is 24 months after the basic training requirement date, and again every 24 months thereafter.

Court security, jailors or custodial officers, Department of Corrections officers, and fire marshals are required to successfully complete approved programs concurrent with the initial employment and, depending on the department, from 12 to 24 months thereafter.

Private security personnel must also complete compulsory minimum training in approved courses to obtain and maintain their licenses.

Table 3-2 shows the number of persons who successfully completed basic, in-service, and special courses.

All agencies responsible for personnel covered by the Criminal Justice Services Commission Act are required to submit the names of all newly hired personnel, including certain identifying data such as date of of birth, Social Security Number, and employment date.

Before this data is converted to 3- by 5-inch index cards and alphabetically filed in the untrained basic file, several other files must be manually searched to see if the person has previously received training from another agency. This means scanning the basic training complete file and the terminated employee file. This search cycle must be performed for each new employee.

Upon notification that a person has successfully completed basic training, the original card must be pulled, posted, and refiled to the basic training complete file. At this time, a cross-index card is created that will act as a trigger card for future requirements notices and followup for in-service training. The cross-index is a multiyear-by-month file, and the cards are filed by date due for completion of in-service training. This file contains approximately 7,680 cards.

TABLE 3-1

Current Files and Entries

File Name	Type of File	Approximate No. of Cards	Description of File
Law Enforcement Untrained Basic	Primary alpha by name	5040	Hired, has not received basic training course
Law Enforcement Trained Basic	Primary alpha by name	5880	Basic training course completed
Court Security Untrained	Primary alpha by name	120	Hired - only
Court Security Trained	Primary alpha by name	780	Course completed
Jailors Un-trained	Primary alpha by name	120	Hired - only
Jailors Trained	Primary alpha by name	1680	Course completed
Div. of Corrections Untrained	Primary alpha by name	600	Hired - only
Div. of Corrections Trained	Primary alpha by name	2160	Course completed
Fire Marshals Trained	Primary alpha by name	110	Course completed
Terminated Employees	Primary alpha by name	4200	
In-service Training	Cross-index by year/month	7680	A series of multi-year files. Month within year and alpha/name within month. Indexed by the date a person is due to complete in-service training.

TABLE 3-2

Number of Persons Successfully Completing Courses

	Last 3 Years			Summary Total 1970-1976 Period
	1974	1975	1976	
Law Enforcement - Basic	1157	1290	1093	6966
Law Enforcement - In-service	0	3365	3390	6755
Court Security	167	196	190	787
Jailors or Custodial Officers	832	338	464	1860
Department of Corrections	438	709	1065	2281
Fire Marshals	0	0	65	65
Instructors School	55	54	66	364
Supervisors School	0	0	126	126

Upon notification that a person has successfully completed an in-service training program, the current year's in-service file is searched, and the card is pulled, posted, and refiled in the appropriate year-and-month file, 24 months ahead. This acts as the trigger card to perpetuate the cycle.

4. FINDINGS AND CONCLUSIONS

There are a number of findings and conclusions that can be drawn from the analysis of the Virginia Criminal Justice Services Commission records system.

The present system is unsuitable for future expansion, and it is barely adequate for current needs. It is only barely adequate today because the private security personnel have not been added to the system. When the 10,000 or more private security people are added, the system now in use will be inadequate. Although the lack of experience in the area of private security makes accurate projections difficult, it is safe to project major system problems based on pushing the present system to or beyond its physical capacity.

It is also worth noting that many of the files are growing. For instance, a file must be kept on terminated employees so that they can be transferred from an inactive status to an active status if they are rehired by another agency or jurisdiction. In a State as large as Virginia, there is considerable job mobility, which makes this file expand rapidly. Searching this file every time a new hire is submitted adds to the awkwardness of the system.

The new legal requirements concerning private security services business personnel creates another problem that the present system will not be able to cope with adequately. In this case, the Criminal Justice Services Commission is not the primary regulating agency, as it is with the other mandated areas. The private security services business is regulated by the Professional and Occupational Regulation Department, which is responsible for the licensing of business and registration of personnel. This adds a new dimension to the role of the Criminal Justice Services Commission. The Commission will have to establish an accurate tracking system not only capable of simple file retrieval but also able to project deadlines for future training and to produce various notices for each individual in the system. This is based on the assumption that private security personnel will have periodic training requirements.

Since the Criminal Justice Services Commission is not the regulating agency but does nonetheless have recordkeeping responsibility, it does not have total control of the problem. Therefore, the Commission's system must be designed in such a way as to provide a high degree of flexibility.

Since the law mandates that initial training be completed within a deadline and that there must be periodic in-service training, the records system must be a continuous-tracking system, as well as a historical record system. The tracking must be continuous because entry into the

system upon the hiring of a person is totally random. The deadlines for completion of training are further complicated by the fact that various types of agencies have varying requirement dates.

The present system can only track or follow up on each individual in the system every 6 months and then only with much effort from staff personnel.

It would be very desirable for the system to send out notices prior to training deadlines and to send out a past-due type of notice when deadlines are missed. Even with additional personnel, the present system is not capable of handling this process. To do any tracking, a duplicate file has to be set up as a cross-index by date. This is done now only for in-service training and by means of considerable additional personnel time.

It is necessary to create special files for personnel with instructor and supervisor qualifications. To update these files, a duplicate set of cards is prepared and established as a cross-index. This is not only additional initial work but also a considerable maintenance problem.

For the system to meet all of its legal mandates, it will have to be capable of providing a considerable number of notices, as was noted earlier. A subordinate problem is the volume of mail (i.e., the amount of mail addressing necessary). The present volume now exceeds 14,000 units a year. This will easily double within the coming year with the addition of private security business personnel.

The primary conclusion is that the present system is inadequate to support the Commission in its legally mandated compliance responsibility. The manual index card record will be unacceptable for future expansion, and the use of a larger or faster electro-mechanical file machine will provide little or no relief. Thus, the conclusion here is to recommend conversion to a computer-automated file as soon as possible.

5. RECOMMENDATIONS

5.1 Overall Recommendation

At the onset of this analysis, there were generally two alternative solutions that seemed feasible. One was to continue in the same type of system (i.e., automated hard copy) but to increase the system's size, speed, and sophistication. The other general alternative was computerization of the records system.

Evaluation of these alternatives leads to the conclusion that computerization of the Commission's records system is the only alternative that will alleviate the immediate problems and allow for future flexibility and enhancement. A more sophisticated version of a hardcopy retrieval machine would simply expand the gross card capacity while doing nothing to reduce the amount of cross-index file duplication. Moreover, it would provide only marginal speed improvements for file searching and retrieval. Computerization of the system would substantially improve the system, take less time to use and maintain, and allow the Commission to meet its mandated duties. Within the area of computerization, there are two feasible alternatives. One alternative would be a contract with the State Computer Service Department for a system to be programmed and run on their equipment. The other would be for the Commission to procure its own equipment and contract with a vender for the initial programs.

5.2 Specific Recommendations

Although either alternative would handle the Commission's needs, the better alternative for the Commission would be to install their own system.

Several years ago, the very thought of installing a computer in anything but the largest of agencies was unheard of. At that time, all computer jobs had to be done on relatively-large-scale machines shared by many users to spread the cost. The machines cost over a million dollars and took teams of specialists to program and operate.

With the development of large-scale-integrated (LSI) circuits, thousands of transistors can be placed on a 1/8-inch square chip. This small, cheap computer circuit is now being used to bring low-cost, high-power reliable computing to a new generation of computers. A system appropriate to meet the Commission's requirements is a desktop computer system with microcomputer circuits, low power consumption on a 110-volt circuit, storage memory disc, output printer, and input keyboard with video screen.

The scope of this analysis does not allow for a detailed cost comparison of the two computer alternatives. However, factors to be considered include:

- How long would it take the State Computer Service Department to program the system?

- What priority would it be given?

- What would the monthly continuing charges be?

- Does the central system have comfortable reserve capacity in hardware?

- Does the State Computer Service Department have systems analysts and programmers available for new projects?

If the answers to any of these questions is not affirmative and comfortable, it is recommended that the Commission procure a small desk-top microcomputer system. The system should be purchased as a turnkey system. In this method a formal, detailed request for proposals (RFP) is written which describes the system and all it must accomplish. This RFP is published and various vendors are invited to bid competitively on the procurement. The RFP should require the vendor to specify and furnish the computer system, design the system, program it, write employee training procedures, install the system, and train the Commission's employees in its operation. The RFP should also require the vendor to operate the system successfully before payment is made, thus ensuring a successful turnkey package.

There are many specific areas the computerized system should accomplish. Most fixed data elements (such as name, date of birth, and Social Security Number) will be typed only once on the system's keyboard. No duplicate entries for cross-indexing will be necessary. Once the initial name entry for a new employee is made, there will be no need for additional entry of this data.

The system should be programmed to search automatically its files for previous entry and status. This will eliminate the present manual search of the Basic-Untrained file for previous employment or waiver exemption (grandfather rights), the search of the Basic Training Complete file -- previous employment, the In-service file and the Terminated Employee's file for a rehire or transfer.

Utilizing the fact that certain data (such as name, date of birth and Social Security Number) are fixed data and other data (such as employment date, date trained, date terminated, school name and marks)

are variable data, gives the computer system distinct operating advantages. After initial entry, the computer system need only manipulate the variable elements of data.

The system should be programmed to recognize a class code that differentiates the type of employment (i.e., law enforcement, Division of Corrections, fire marshal, etc.) and associates this code with its required training periods. Thus, if the fire marshals' training period is 24 months maximum and the Department of Corrections' training period is 12 months maximum, the computer can automatically calculate the deadline date by which training must be legally completed. It could also periodically print a list of persons, sorted by their departments, who are within 90 days of a particular deadline. This would act as a reminder notice. A similar listing could be made for all persons passing a deadline and becoming delinquent in training. These features of the automated system would help dramatically to ensure the Commission that the laws were being adequately fulfilled.

Being able to print a list that is sorted by department will be a great advantage in periodic audits of the data. One of the deep weaknesses of the present system is this inability to audit well and control the quality of the data elements. As the present files grow and as private security personnel (regulated by another agency) expand the file, audit and quality assurance of data will become a major issue.

The method and cycle of entering data needs to be reevaluated. Presently, the Commission uses a single sheet form which can contain many names. These input sheets are submitted every 6 months. In the beginning when the volume was lower, this was adequate. Presently, this 6 month cycle is causing a tidal wave effect.

Utilization of a computer system could allow for monthly or even daily file updating. Several other States have used individual colorcoded cards as the input document. For example, a green card is used for a new employee, a yellow card for a notice of training completion, etc. These cards can be sent in as the event occurs, which will tend to smooth out the work flow and keep the file as current as possible. This will be particularly important when notice dates are being calculated. The system's overall performance will be governed to a large degree on its ability to get input data as currently as possible. This area bears careful consideration in the system's final design.

Use of a desk-top microcomputer system with a cathode ray tube (CRT) screen and keyboard will enable the Commission to control its own input quality from the standpoint of key entry. Doing one's own key entry minimizes errors caused by sending the records out for keypunching. Materials do get lost in transit, time is lost, and, when errors are found, the records must be resubmitted. However, when using a CRT

entry system, the operator sees a form on the screen and simply keys in the blanks. Errors are corrected by backspacing and keying over, as is done in normal typing. A person's complete record could be recalled to the screen for review or changing almost instantaneously. A printer attachment would be used for hard-copy printing or repeat production.

The present system allows no realistic way to analyze the data in the files. A computer could provide answers to management data inquiries, providing responses to such questions as:

- How many and who are the persons with supervisor training or instructor training?

- What will be the volume loading for the various types of schools in the next 6 months?

- How many people are in each type of training area?

- What trends can be seen in the private security personnel area?

Within the scope of this report, the Consultant cannot design the system nor its specific software requirements. However, there are sufficient data to establish a cost estimate for using this approach.

Analysis of the actual training records shows that all of the data elements could be recorded within an 80-character record. The mass storage disk for the system was sized and costed to contain approximately 25,000 individual records, (i.e., a record on 25,000 people). This size would seem ample, but could be easily expanded as needed with the procurement of larger storage at a later date.

The specific budget would include:

- A central processor unit.

- A CRT keyboard unit.

- A high-speed printer.

- A mass storage disc drive.

- All miscellaneous hookup materials including desk, stands, and covers.

The approximate costs would be:

Hardware delivered	$35,000
Programming and installation, etc.	20,000
Total budget:	$55,000

Software or programming for the Commission's requirements may be less expensive because it is a more competitive item. However, $20,000 is a good budgetary amount.

5.3 Action Plan

The first step in procuring a microcomputer system would be the preparation of a Law Enforcement Assistance Administration grant application. Much of the information needed for that application is contained in this document.

Upon approval of the grant application, a procurement document should be prepared that meets both State and Federal requirements for the procurement of computer systems. It is suggested that a request for proposals type of procurement be selected. Since this procedure is very technical, it would be well advised to utilize LEAA technical assistance. Approximately 6 days of consulting time should be adequate.

Then the RFP would be advertised and bids received from prospective vendors. They will state specifically what they will do and for exactly how much money. Selection of the successful bidder is the final phase of the procurement cycle.

It is advisable to get a third-party evaluation of the computer systems that are proposed. Technical comparisons of the various systems can be complex. At htis stage, LEAA technical assistance could again be very valuable, and approximately 4 days' consulting time would be adequate.

The Commission will be able to meet all of its mandated requirements by utilizing the automated approach, which will also allow for the development of management information and planning. It will provide the ability to meet present and future work loads without hiring additional personnel. The automated system will also allow a comfortable growth rate control of recordkeeping needs and enable the Commission to handle its expanding role and increased responsibilities.

END