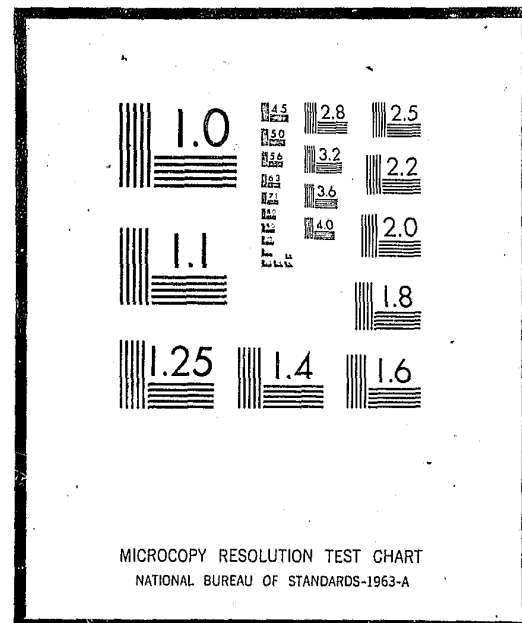


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U.S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION
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6/21/76

R-76-117

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION POLICE TECHNICAL ASSISTANCE REPORT

SUBJECT: Florida, Crime Laboratory System Training Assessment
REPORT NUMBER: 75-94
FOR: Florida Department of Criminal Law Enforcement,
Crime Laboratory Bureau

CONTRACTOR: Westinghouse Justice Institute
CONSULTANT: Marion E. Williams
CONTRACT NUMBER: J-LEAA-003-76
DATE: March 12, 1976

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FOREWORD

This request for technical assistance was made by the Crime Laboratory Bureau, Florida Department of Criminal Law Enforcement in Tallahassee. The requested assistance was concerned with assessing the technical proficiency and training needs of onboard personnel, and developing appropriate instructional guidelines for future replacement and expansion personnel, with the immediate intent of combining the personnel of several independently operated laboratory facilities.

Requesting Agency: Florida Department of Criminal Law Enforcement, Crime Laboratory Bureau,
Mr. Stephen Milliken

State Planning Agency: Bureau of Criminal Justice Planning and Assistance,
Mr. H. Ray Graves, Law Enforcement Science Advisor

Approving Agency: LEAA Region IV (Atlanta),
Mr. Ben Jordan, Director, Program Development and Technical Assistance Division;
Mr. John A. Gregory, Police Specialist

1. INTRODUCTION

The Florida State Legislature has authorized establishment of a State-operated crime laboratory system composed of laboratories in Tallahassee, Jacksonville, Tampa, and Pensacola. On July 1, 1975, the Sanford Regional Laboratory came under the administrative control of the State system. Regional laboratories located in Tallahassee and Sanford are capable of producing a wide range of forensic services. A regional laboratory at Jacksonville is in the planning stages and will ultimately provide services comparable to those available at Tallahassee and Sanford. The Tampa laboratory is currently involved only in the analysis of drugs, but will be expanded to provide services similar to the laboratories mentioned above. The Pensacola laboratory is presently a one-man operation and will be expanded into a drug laboratory.

The system is subject to further expansion since existing, locally funded laboratories in Dade, Indian River, Broward, and Palm Beach Counties are included in the enabling legislation and are now eligible for State matching funds. Any one or all of these facilities may at some future time choose to become part of the State system.

The presently authorized technical and administrative complement for the system is 123. Of these, 15 are in a training status, and 26 are being recruited to fill positions within the system.

A Forensic Research and Training Section has been established at headquarters in Tallahassee. It is presently responsible for the development and application of assessment procedures to determine the proficiency of all scientific personnel currently employed in the system, and to identify present and future training needs. Technical assistance was sought to assist in a feasibility study directed toward an effective and practical plan to develop the proficiency assessments and instructional techniques essential to resolve these matters.

During the course of this study, persons interviewed included the following:

- Mr. Richard E. Schoditsch, Chief, Crime Laboratory Bureau.
- Mr. James E. Halligan, Forensic Research and Training Section.
- Mr. Stephen B. Milliken, Forensic Research and Training Section.
- Mr. Dale Heideman, Forensic Research and Training Section.

In addition, supervisory personnel and principal laboratory analysts in Tallahassee, Sanford, and Tampa were interviewed.

2. UNDERSTANDING OF THE PROBLEM

Immediate assessment of the technical proficiency of "onboard" scientific personnel was particularly acute in view of the recent assimilation into the system of the staffs in Sanford, Pensacola, and Tampa laboratories. Each of these laboratories was developed and operated independently in all administrative, technical, and training areas and previously had not been subject to State control. Hence, the management felt an overall assessment of the personnel in the entire system was essential to ensure that: (a) Both short- and long-range goals are achieved by identifying strengths and weaknesses in technical and training areas, and (b) uniform quality services are provided the State's criminal justice system.

Effective organizational controls have been provided by the Legislature, and funding is available to ensure operation of the system. State funding is not presently available, however, to develop and administrate in-depth testing programs by persons and/or organizations outside the present system.

Organizationally, the Crime Laboratory Bureau is part of the Division of Staff Service. Mr. Fred Johns, Director of this Division, reports directly to Commissioner William Troelstrup, Florida Department of Criminal Law Enforcement.

The Consultant was requested to assist in the following specific tasks:

- Identify the number and categories of laboratory personnel to be tested.
- Identify and contact other resources, including professional organizations and other forensic laboratories, to determine what resources are available in the field for participation in developing the test program.
- Recommend the composition of a steering committee to oversee the program.
- Develop a cost estimate (time, travel, and subsistence) for personnel necessary to develop the test program.

3. ANALYSIS OF THE PROBLEM

3.1 Identify the Number and Categories of Laboratory Personnel to be Tested

Curriculum vitae, job descriptions, and position descriptions were reviewed for all scientific personnel. Scientific and supervisory employees were interviewed in depth to ascertain their views concerning the feasibility, desirability, and overall value of an assessment program if applied to personnel in the Crime Laboratory Bureau. Other scientific employees, assigned to Tallahassee, Sanford, and Tampa, were interviewed to obtain insight into their attitudes, acceptance, and participation in the event a formal assessment program was developed for specific areas of expertise.

Although the job descriptions and position descriptions reviewed probably meet their intended requirements, the job descriptions are general. They define levels of responsibility, but do not discriminate between specialities. (For example, Crime Laboratory Analyst III, a section supervisor rating, does not distinguish between the duties of supervisors for Firearms and Chemistry.) The duties and responsibilities for each authorized position are not set forth in sufficient detail to provide a basis for identifying specific disciplines to be tested. Position descriptions are prepared by incumbents (not for trainees or unfilled positions) and may or may not reflect an accurate delineation of the duties actually performed and/or the technical services provided.

Furthermore, the various Section titles, as set forth in the organization charts (i.e., Evidence Processing, Latents, Photography, Chemistry, Microanalysis, Serology, Firearms, and Documents), do not provide a meaningful guide for personnel assessment categories, since responsibilities in these areas are not sufficiently specific to draw testing parameters. Therefore, a tabulation of the specific technical services now provided by the system more nearly defines the areas of responsibility and identifies desirable testing "units."

Types of examinations or "units" identified by staff personnel of the Crime Laboratory Bureau are listed in Table 3-1. Terms are those used in the system and have specific meaning to the organization. The units are listed in descending priority. The relative urgency for assessment is reflected in the higher priority units because of a greater demand for that service, or by lesser aggregate expertise among the analysts, or both.

Assessments to be made are divided into two groups. The Validation group involves testing units for those individuals who have qualified in court, or will do so in the next few weeks. Testing their expertise in

TABLE 3-1

Units or Types of Examinations

Unit	Group	
	Validation	Authentication
CANNABIS	11	18
DRUGS	11	18
BLOOD	5	5
GUNSHOT RESIDUES	2	11
SEMEN	2	8
CRIME SCENES	13	12
PAINT	4	4
HAIRS	3	3
FIBERS	3	5
GLASS	4	4
TISSUE SAMPLES	2	1
GENERAL UNKNOWNNS - (Toxicology)	2	1
MISC. IMPRESSIONS (Tires, Shoes, etc.)	3	4
ACCELERANTS	4	22
FILAMENTS (Electric bulbs)	2	6
PROJECTILE COMPARISON	2	3
TOOLMARKS	2	3
MUZZLE-TO-TARGET DISTANCE	2	3
HANDWRITING	3	1
FRAUDULENT CHECKS	3	1
MISC. CHEMICAL IDENTIFICATION	2	22
SERIAL NUMBER RESTORATION	3	2
MECHANICAL PRINTING	3	1
LATENT FINGERPRINT COMPARISON	5	8
RESTORATION OF DOCUMENTS	3	1
MECHANICAL CONDITION OF WEAPONS	2	3
ALCOHOL ANALYSIS (Beverage)	3	0

specific areas will validate the assessment procedures, as well as further support the analysts' qualifications as expert witnesses.

The Authentication group is comprised of those who are now, or will be, in a training program, or who will be hired into the system as experienced analysts with expert witness experience. Testing them will reveal the effectiveness of their training and/or the relevance of their experience.

Since an analyst may conduct examinations involving one or more of these units, the tabulation actually represents the total number of assessments contemplated. Therefore, the tabulation represents a number greater than the actual number of individuals to be assessed.

3.2 Identify and Contact Other Resources

It is generally agreed among forensic scientists that proficiency testing and certification are desirable long-range goals for this important professional group. However, there are no off-the-shelf assessment programs available that can be applied directly to the wide range of disciplines to be tested in the Florida Crime Laboratory System.

There are a number of organizations (such as the American Society of Crime Laboratory Directors and the American Academy of Forensic Sciences) deeply involved in the examination of physical evidence whose membership has deep-rooted interests in assessment programs. Unfortunately, adequate funding has not been available from within such organizations to develop meaningful assessment programs.

Except for individuals with "bench" and/or management experience within these or similar organizations, there are no other sources of expertise in the scientific community that can effectively produce and/or provide guidance for the development and application of these important programs.

It is generally accepted by knowledgeable members of the forensic science community that, once working models have been developed, they will improve with use and experience. Thus, they will provide a valuable management tool for the assessment of laboratory services throughout the profession, and ultimately lead to certification for both analysts and laboratories. With the development of appropriate criteria, certification of laboratories will follow; since the value of the service provided by a laboratory is directly dependent upon the ability of individual analysts within the organization to provide high-quality, meaningful service, which fulfills the needs of the criminal justice system.

3.3 Recommend the Composition of a Steering Committee to Oversee the Program

Forensic science services are almost exclusively provided to the criminal justice system by Federal, State, and local crime laboratories. The American Society of Crime Laboratory Directors represents approximately 200 crime laboratories throughout the United States and Canada and has within its membership outstanding technical know-how and expertise to supervise and formulate assessment and training programs in all disciplines.

The Federal Bureau of Investigation is available, in specific areas, for consultation and assistance, within the restrictions placed upon its resources by ongoing commitments. At the present time, the FBI is not in a position to develop and administer a model assessment and training program.

3.4 Develop a Cost Estimate

The total cost of funding a model assessment and training program that is acceptable to the requirements of all crime laboratories cannot be meaningfully assessed because of numerous factors. Cost of such a program depend directly upon the number of areas (units) selected for assessment. Once a steering committee has identified the specific disciplines to be addressed and established units of study, an assessment program, with appropriate instructional materials, could be developed by three or four carefully selected practicing analysts. The cost would be approximately \$5,000 to \$7,500 per unit (assuming 10 to 14 days in conference, plus \$100 per day for time, \$250 for travel, and \$35 per day for subsistence). It is pointed out, however, that State and local laws, rules, and regulations concerning dual compensation vary widely; hence, a meaningful cost estimate is not feasible without a more detailed study.

If consultant fees could not be accepted by the panel members who develop the various units, the total cost per unit could conceivably be reduced to actual travel, subsistence, and administrative costs of oversight, publishing, and testing the models.

4. FINDINGS AND CONCLUSIONS

On the basis of information developed during the consultation period, the following findings and conclusions are set forth. Not all bear directly upon an assessment program but, indirectly, each has a bearing upon the efficiency of operation and upon the quality of services rendered by the system. For these purposes, assessment programs should be designed and directed, and the results applied.

- An assessment program is feasible.
- The need for a viable assessment program is clearly indicated.
- Assessment needs are more urgent in some technical areas than others. These needs are recognized, and have been identified, by members of the staff. (See Table 3-1.)
- Personnel to be tested are appreciative of the need for such programs and are willing to participate.
- Any assessment program developed should incorporate one, or more, of the following techniques:
 - Written examinations (technical and administrative).
 - Bench testing.
 - Oral examination by panel of peers (technical).
- A program should be designed to provide unit assessment on a continuing basis for each employee and should be applied uniformly to all scientific employees throughout the system.
- Specific in-house devices should be developed and maintained for administrative guidance and direction in several management areas:
 - Administrative procedures and guidelines in the form of manuals and/or memoranda issued to and maintained by each employee to delineate policy, rules, and regulations (i.e., receipt, care and custody of evidence; testimony; security matters; annual, sick and compensatory leave; etc.).

- Detailed job description for each position to describe specifically the services and responsibilities required of the incumbent.
- Detailed study of each unit of service to determine its relationship to other units within the laboratory system for the purpose of combining scientifically related examinations and responsibilities. (i.e., hair and fiber examinations might be conducted by one analyst. Other logical combinations may become obvious on the basis of the background and experience of analysts involved, resulting in time and equipment savings.)
- Development of bench manuals, not as compulsory standard procedures, but as suggested, recognized, or acceptable examination techniques.
- Maintenance of an "interesting case" and information file of data useful for preparation of articles, speeches, and other public relations matters; including, for example, interesting cases, interesting laboratory techniques, interesting photographs, and other matters bearing directly upon the operation of the laboratory system.
- Continued study, to provide more effective and efficient use of the analysts' time. (For example, efforts should be made to obviate the necessity for analysts' appearances at preliminary hearings and other pretrial proceedings, through the use of certified reports or other techniques. Likewise, substantial savings in time can be effected by close coordination with State Attorneys and defense attorneys with respect to the time and date an expert witness will actually be used to minimize the time away from the laboratory.)

5. RECOMMENDATIONS

The following recommendations are predicated upon time, funding, and urgency factors that are beyond the immediate control of the supervisory staff of the Crime Laboratory Bureau.

5.1 Short-Range Program

Under the direction of the Forensic Research and Training Section, the following steps should be taken over a period of approximately 60 days:

- Identify possible problem areas by self-inspection and evaluation.
- Use in-house resources, such as systemwide supervisory personnel, to establish a discipline-priority schedule for immediate review.

Based upon identified priorities, use the most competent personnel in each specialty to conduct a limited assessment of technical proficiency and court work for each analyst, to identify existing administrative and/or technical gross deficiencies. Possible techniques include:

- Temporary exchange of supervisory personnel within the laboratory system -- to assess day-to-day activities through personal observation and interview of all technical personnel, including court appearances.
- Oral examinations -- restricted to essential areas, considered necessary to identify weaknesses and to ensure accurate, uniform, and conservative results in the work-product of the system, irrespective of the laboratory used.
- Assistance from supervisory analysts from Florida laboratories not now part of the Crime Laboratory Bureau, or from laboratories in the Southern Association of Forensic Scientists -- to assist in oral examinations and evaluations.

Based upon results obtained in the preceding recommendation, develop intensive individualized programs to correct identified deficiencies. This could be done through in-house training (staff personnel or consulting experts from other crime laboratories, active or retired, as trainers), or through specialized courses available at the Federal Bureau of Investigation, Drug Enforcement Administration and/or nongovernmental sources, such as McCrone or Sadtler.

The need for assessment will accompany the assimilation of each new laboratory into the State system. Therefore, similar appraisals should be initiated, as soon as possible, following acceptance of supervisory responsibilities for the new facilities.

5.2 Long-Range Program

During the next 2 years, continue to explore all avenues of funding, through State and governmental sources, for the development of a complete discipline-by-discipline model for proficiency testing, certification, and training. This model should be designed for use in all crime laboratories providing service to the criminal justice system. Since intimate participation by peer groups is an essential element for success of such programs, the American Society of Crime Laboratory Directors and/or the Forensic Science Foundation are logical organizations to serve as prime and/or sub-contractors. They are highly qualified to provide steering committees and administrative services to develop these highly desirable standards for professionalizing the forensic science community.

Continue to explore all avenues by which the salary scales of laboratory personnel in the Crime Laboratory Bureau might be increased to more nearly correspond with those in other laboratory systems. Increased compensation will materially reduce the attrition rate of qualified analysts. Such employees are in short supply because of ever-increasing demands for service placed upon the crime laboratory community in the United States and Canada. By increasing compensation, thus, attracting and retaining qualified personnel, substantial savings could be realized. This would occur through reduction in costs and manpower directly related to recruiting, selection, training, and supervision.

END