



COMMONWEALTH of VIRGINIA

FORENSIC SCIENCE BOARD

Joseph P. Bono, Chairman

To: The Honorable Lacey E. Putney
Chair, House Committee on Appropriations

The Honorable Charles J. Colgan
Chair, Senate Committee on Finance

The Honorable David B. Albo
Chair, Virginia State Crime Commission

From: Joseph P. Bono
Chair, Forensic Science Board

A handwritten signature in black ink that reads "Joseph P. Bono".

Date: November 7, 2008

Re: Forensic Science Board Report

Pursuant to the provisions of subsection B of § 9.1-1110 of the *Code of Virginia*, the Forensic Science Board shall, by November 1 of each year, review and make recommendations, concerning the following matter:

1. New major programs and plans for activities of the Department of Forensic Science and elimination of programs no longer needed;
2. Policy and priorities in response to agency need;
3. General fiscal year operational budget and any major changes in appropriate funds;
4. Actions to foster and promote coordination and cooperation between the Department of Forensic Science and the use programs which are served;
5. Rules and Regulations necessary to carry out the purpose and intent of this chapter;
and
6. Any recommendations submitted to the Board or the Director by the Scientific Advisory Committee.

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Forensic Science Board Report

The 2008 Report of the Forensic Science Board concerning these matters is attached. Please do not hesitate to contact me at (317) 823-4474 if you have any questions or would like additional information.

Enclosure

cc: The Honorable John Marshall
Peter M. Marone
Members, Forensic Science Board

JPB/glc

2008 FORENSIC SCIENCE BOARD REPORT
VA Code § 9.1-1110

1. New major programs and plans for the activities of the Department of Forensic Science (DFS) and the elimination of programs no longer needed

Review of programs and plans; recommendations, if any:

Breath Alcohol Replacement Instruments

The Scientific Advisory Committee (SAC) reviewed the protocols for this program and recommended them for approval by the Forensic Science Board (FSB). The FSB unanimously approved them for use.

To date, the Breath Alcohol section has trained 2822 operators on the new evidential breath test instrument, the Intox EC/IR II. The new instrument replaces the Intoxilyzer 5000 which has been used in the Commonwealth for over 12 years. The Intox EC/IR II offers enhanced communication capabilities and will utilize dry gas as the control with every breath test. Instruments began to be deployed for routine use beginning October 16, 2008. Full deployment of the new instrument to non-federal entities is projected to be completed by the end of the first quarter of 2009.

AccuTOF-DART Testing Protocol

The Board accepted the SAC's recommendation to adopt this technology as a screening tool only at DFS. The Department has begun routine use of this technology as a screening tool for controlled substances.

Mitochondrial DNA Program Status

The SAC reviewed the Department's operating procedures for the mitochondrial DNA testing program and found them to be complete and appropriate. The program will begin processing cases before the end of 2008.

Y-STR DNA Testing Protocols

The SAC reviewed and recommended implementation of Y-STR DNA testing procedures, and the Board accepted the SAC's recommendation to adopt this technology at DFS. The Department will begin processing cases utilizing Y-STR testing before the end of 2008.

Transition to Capillary Electrophoresis for DNA Analysis

In February 2006, DFS planned to continue use of gel technology for DNA analysis until such time as Dr. Richard Mathies' microfabricated capillary array electrophoresis technology became commercially available as a replacement. In April 2008, DFS was informed that the instrumentation for the microfabricated capillary array electrophoresis would not become available for another 18 months or longer.

Consequently, DFS has decided to implement the Applied Biosystems Genetic Analyzers (ABI3130xl) which utilizes capillary electrophoresis.

Capillary eletrophoresis is by far the most commonly utilized DNA technology in the country. The decision to implement the ABI technology may decrease the total cost of conversion to a new platform because the ABI3130xl maybe competitive in cost. Because DFS will now be using the same technology as the vast majority of forensic laboratories in the country, the pool of available lateral applicants for DNA examiner positions may increase while the training time for lateral hires may decrease.

DSF has drafted proposed protocols for using the new DNA technology. The proposed protocols will be submitted to the Scientific Advisory Committee for review prior to implementation.

DFS will continue to provide information to the SAC and the Board on its progress in completing protocols, validation of and training on the new platform and the expected commencement of casework using this technology.

Northern Virginia Laboratory Project

The public-private partnership construction is on-time and within budget, with a projected occupancy of spring 2009. The 112,000 square foot building will provide full-service capability for DFS and Office of the Chief Medical Examiner in Northern Virginia.

Western Laboratory Expansion

The 2008 Appropriation Act authorized DFS to explore the purchase of land for expansion of the laboratory. DFS is working with the Department of General Services on negotiations for the 3.7 acre property adjoining the present laboratory.

Central Laboratory / Director's Office Expansion

The DFS Director's Office, along with the Division of Administration and Finance, Human Resources, Breath Alcohol Section, and the Training Academy, relocated in February 2008 to the Biotech 8 building, which is directly across Fifth Street form the Central Laboratory (Biotech 2). The vacated office space in Biotech 2 is being renovated to allow for expansion of the Central Laboratory.

Post Conviction Case Review and Notification Process

In 2005, Governor Mark R. Warner directed the Virginia Department of Forensic Science to review archived serology case files from 1973 to 1988, and to perform DNA testing of biological evidence found in certain of those files. Originally, it was estimated that approximately 165,000 case files from the Central Laboratory should be reviewed. Ultimately, DFS determined that more than half a million case files, from all four DFS labs, needed to be reviewed to ascertain whether any individuals convicted of a certain set of crimes during that fifteen-year period may have been wrongly convicted.

This project, in terms of its scope, has no precedent. To date, approximately 534,000 DFS case files from the 1973-1988 period have been individually reviewed to determine whether there is crime scene evidence in the file. From this review, 2,167 cases have been identified that meet the following criteria:

- the file includes human biological evidence; and
- the file identifies a known suspect.

Of the 2167 cases, more than 770 cases satisfy a third criterion – that a known suspect was consequently convicted of a felony crime against a person.

As of November 1, 2008, DFS is able to report the following data relating to the DNA resting program:

- 775 cases have been sent to the contracting laboratory for DNA testing
- 29 additional cases will be sent to the contracting laboratory for DNA testing
- 34 Certificates of Analysis have been completed for 179 cases
- Of the 34 cases in which review of the results has been completed by DFS, the named defendant's DNA has not been identified on the evidentiary samples in approximately 8 instances.
- Hits to DNA profiles in the Virginia DNA databank of persons not named in the case file have been made in 6 of the 2167 cases.

DFS utilized the entire \$1,422,000 provided by the Governor's Economic Contingency Fund to pay employee wages and the testing of more than 300 cases from February, 2007 to June, 2008, when federal funds became available to pay for resting of certain cases through an award from the National Institute of Justice. DFS is reviewing the data of the cases tested by the independent lab and issuing certificates of analysis. More than 360 additional cases have been sent to the lab for testing since the end of July 2008.

The FSB considered at its January 2008 meeting whether to send notification letters to convicted persons whose case files contained physical evidence suitable for DNA resting and whether to advise the appropriate people in the Commonwealth of Virginia Government about the notification issue. Both proposals failed.

In March, 2008, the General Assembly passed budget language requiring the Board to notify convicted defendants of the existence of physical evidence found in the Department's case files and that such evidence is available for DNA testing.

At the May 7, 2008 meeting of the Board, the Board formed a subcommittee for the purpose of meeting the requirements of the budget language regarding notification. The Subcommittee met on June 4, 2008, and unanimously approved a procedure for the implementation of the budget language. Their procedure included the assistance of pro bono attorneys in the identification, location and notification of the individuals to be notified.

At its August 6, 2008 meeting, the Board, rejected the Subcommittee's notification plan and voted to send notification letters by first class and certified US Mail to the 1,031 people required by the legislation to be notified. The letters included a postcard that the individual was asked to return to indicate that they were the addressee. The letter also included the contact information for the Mid-Atlantic Innocence Project ("MAIP") in case the individual desired free legal assistance.

In September and early October, based upon addresses of persons known to be living provided by the Department of Corrections and Virginia State Police, DFS mailed letters to 556 persons. As of October 29, 2008, 181 of the enclosed postcards were returned indicating the addressee had received the notification letter. Only 21 postcards were returned indication the incorrect persons had received the letter. Letter addressed to 159 persons, to whom delivery was not otherwise confined, were returned as undeliverable, but in 62 of these cases, only the certified letters were returned, not the first class mailings. The Virginia State Police are continuing their research of government and other databases to locate current addresses for persons whose addresses were not initially identified or those addresses have appeared to be incorrect.

At the Board's October 8, 2008, meeting, the Mid-Atlantic Innocence Project reported receiving over 90 inquires. MAIP reported that most of the people were confused about the letters, partly because the letters were difficult to understand and, according to the MAIP, contained errors and incomplete information. As a result, many of the people contacting MAIP could not determine whether they were the correct person to be notified or not.

The Board voted to recommend to the General Assembly that it amend the 2008 Budget language, or use other expeditious means, to provide a procedure for notification of all relevant convicted persons in the most effective manner.

2. Policy and priorities in response to agency needs

Review of Grants

DFS received grant funding for FY 08 and FY 09 under the following awards:

2007 and 2008 Forensic DNA Backlog Reduction Program – \$1,019,118 for FY 08 and \$942,280 for FY 09 from the National Institute of Justice (NIJ) to reduce the forensic casework backlog in the Forensic Biology Section.

2007 Convicted Offender/Arrestee DNA Backlog Reduction Program – \$360,000 from NIJ to reduce the backlog of convicted offender and arrestee DNA samples in the DNA Data Bank.

2007 and 2008 Byrne Memorial Justice Assistance/Criminal Justice System Improvement Grants – \$60,000 through DCJS for FY 08 to upgrade existing Gas Chromatography / Mass Spectrometry (GC/MS) units in the Toxicology Section statewide.

Also, \$60,000 (with a \$20,000 state match) through DCJS for FY 09 to purchase a GC/MS unit for the Controlled Substances Section in the Northern Lab

2007 and 2008 Paul Coverdell National Forensic Science Improvement Program – \$50,000 through the OCME for FY 08 to purchase a comparison microscope for the Firearms Section in the Central Lab. Also, \$59,000 through the OCME for FY 09 to purchase equipment and supplies for the Controlled Substances and Toxicology Sections statewide

2008 Post-Convictions DNA Testing Assistance Program – DFS has entered into a cooperative agreement with the National Institute of Justice (NIJ) to Support the Governor-mandated post-conviction DNA testing of at least 700 cases involving convictions for forcible rape, murder or non-negligent manslaughter from the 1973-1988 case files.

As a condition of the cooperative agreement, DFS has agreed that the responsibility for the general oversight and redirection of the project, if necessary, rests with NIJ. NIJ requires continuing consultation with DFS. DFS also has agreed to provide full access to NIJ-selected researchers to conduct a study of the entire project to address difficult questions concerning cases of actual innocence.

The total amount of the award is \$4,520,295, and the award period is from June 1, 2008 through March 31, 2010.

This award is in addition to the \$1,422,000 expended from the Governor's Economic Contingency Fund and covers the testing of at least 700 cases not already paid for by the Commonwealth of Virginia through the Governor's Contingency Fund. The award also provides funding for three part-time administrative employees to work a total of 3750 hours to issue notification letters for an estimated 1031 defendants to be notified pursuant to Item 408 of the 2008 Budget.

2008 Research & Development – Controlled Substances Detection & Analysis – \$49,774 from NIJ in FY 09 to develop a Thin Layer Chromatography Method for the Separation of Enantiomers Using Chiral Mobile Phase Additives

2008 Using DNA Technology to Identify the Missing – \$443,682 from NIJ in FY 09 to assist the OCME in identifying human remains via nuclear and mitochondrial DNA analysis

3. General Fiscal Year Operational Budget and any Major Changes in Appropriated Funds

Budget Review

The DFS FY 2008 general fund appropriation was \$32,168,890 after implementing approximately \$1.69 million in Governor's spending reductions. To achieve the Governor's spending reductions, DFS implemented the following strategies: delayed filling scientific classified positions, reduced expenses for wage employees, terminated contracted training services, delayed the purchase of scientific and IT equipment, and reduced overtime, training and

related travel expenses for agency employees. The FY 09 general fund appropriation of \$35,703,991 includes continued spending reductions of \$700,000. A non-general fund appropriation of \$1.5 million was also established in FY 2009 for federal grants.

4. Actions to foster and promote coordination and cooperation between the Department and the user programs which are served

Review of programs; recommendations, if any:

Conferences, Presentations, etc.

DFS representatives have attended regional meetings and statewide conferences of its user agencies to give presentations on relevant forensic science issues and be available for feedback and comment on the services that the Department is providing. This included meetings and conferences for investigators, sheriffs, chiefs of police, commonwealth’s attorneys, general district court judges and circuit court judges. DFS also continues to organize the Virginia Forensic Science Academy Annual Retraining Seminar, which provides Academy graduates updates on DFS services and practices. This seminar also serves as a mechanism for DFS to receive feedback on the services it provides to user agencies.

Blood Vial Kits / Office of Chief Medical Examiner

At the request of the Forensic Science Board, DFS reviewed the mail-in kit used for the submission of blood DUI evidence to the Toxicology section. With input from customer agencies, modifications to the kit were implemented in 2008. The Department also continues to work with the Office of the Chief Medical Examiner to streamline processes for conducting toxicology examinations.

Backlogs

Status of Backlogs as of October 1, 2008

<i>Section</i>	<i>Ending Backlog</i>	<i>Average Turn Around Time (in days)</i>	<i>Cases Over 30 days</i>
<i>Controlled Substances</i>	<i>1092</i>	<i>16</i>	<i>0</i>
<i>Firearms</i>	<i>938</i>	<i>52</i>	<i>556</i>
<i>Forensic Biology</i>	<i>1086</i>	<i>123</i>	<i>718</i>
<i>Latent Prints</i>	<i>591</i>	<i>31</i>	<i>242</i>
<i>Questioned Documents</i>	<i>31</i>	<i>22</i>	<i>11</i>
<i>Toxicology</i>	<i>880</i>	<i>37</i>	<i>290</i>
<i>Trace Evidence</i>	<i>414</i>	<i>108</i>	<i>298</i>

5. Rules and Regulations necessary to carry out the purposes and intent of this chapter

Review of new rules and regulations; recommendations, if any:

Regulations for Obtaining Information From the DNA Data Bank and Procedures for Verification and Authorization of Persons Requesting Information From the Data Bank (6 VAC 40-60)

These regulations were proposed last year to comply with § 19.2-310.5 of the *Code of Virginia*, which requires that regulations be adopted by the Department of Forensic Science outlining: 1) methods of obtaining information from the data bank and 2) procedures for verifying the requestor's identity and authority. These regulations are currently in the proposed stage and are awaiting approval of the Governor.

Public Participation Guidelines

Final Public Participation Guidelines of the Department of Forensic Science and the Forensic Science Board were published in the Virginia Register on September 29, 2008.

Breath Alcohol Regulations

Proposed amendments to the Breath Alcohol regulations were published on the Regulatory Town Hall on September 1, 2008. The comment period ends on October 1, 2008, and the regulations are expected to become effective fifteen days later.

6. Recommendations submitted to the Forensic Science Board or the Director by the Scientific Advisory Committee

Scientific Advisory Committee recommendations:

- That DFS be allowed to use AccuTOF-DART as a screening method.
- That proposed Y-STR protocols be adopted implemented for casework.
- That proposed Mitochondrial DNA protocols be adopted and implemented for casework.
- That proposed Breath Alcohol protocols be adopted with implementation of the new instrumentation in the field.
- That, based on review of determinations made by DFS in the DNA testing of the 10% random review of cases from 1973-1988 that contained physical evidence, DFS implement a new categorization scheme intended to simplify the reporting process and improve clarity that (i) no longer labels cases as "inconclusive" if, in fact, no conclusions can be drawn because necessary reference samples are missing, and (ii) requires the issuance of certificates of analysis per laboratory protocol.
- That DFS consider minimizing the perception of and the potential for contextual bias. DFS will implement new DNA verification procedures in the forensic biology section to address the issue of contextual bias.

Forensic Science Board Recommendations:

- That DFS implement the recommended AccuTOF-DART methodology as a screening tool
- That DFS implement the recommended Y-STR and Mitochondrial DNA protocols for casework.
- That DFS implement the recommended Breath Alcohol instrumentation protocols for evidential field use.
- That DFS implement a new categorization scheme for DNA analysis which (i) does not permit description of the results as “inconclusive” if the case is missing necessary reference samples and provides more clarity in reporting; and (ii) requires the issuance of certificates of analysis for all DNA testing, including the Post-Conviction Testing Project.
- That the General Assembly (i) amend the 2008 Budget language or use other more expeditious means to provide a procedure for reliable and accurate notification of all individuals who fall within the category of those convicted due to criminal investigations for which DFS case files from 1973 through 1998 have been found to contain evidence possibly suitable for DNA testing and (ii) provide sufficient resources to accomplish this task.