

DNA ADVISORY BOARD UPDATE

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The DNA Advisory Board (Board) was established by the Director of the Federal Bureau of Investigation under the DNA Identification Act of 1994 (Act) as a separate and distinct advisory board administered by the FBI. The Act provided funding for forensic laboratories to improve the quality and availability of DNA analyses, and to the FBI to establish the national Combined DNA Index System (CODIS). Congress authorized the Director of the FBI to develop standards for quality assurance, including standards for testing the proficiency of forensic laboratories, and forensic analysts performing DNA analyses. The legislature specified that access to federal funding provided under the DNA Identification Act is contingent upon a laboratory's strict adherence to these standards. In accordance with the DNA Identification Act, the quality assurance guidelines adopted by the Technical Working Group on DNA Analysis Methods (TWGDAM) were deemed the FBI Director's interim standards.

The Director of the FBI, in accordance with the DNA Identification Act of 1994, specified that the Board's scope of activity was:

- To develop, and if appropriate, periodically revise, recommend standards for quality assurance, including standards for testing the proficiency of forensic laboratories, and forensic analysts, in conducting analysis of DNA.
- To recommend standards which specify criteria for quality assurance and proficiency tests to be applied to the various types of DNA analyses used by forensic laboratories, including statistical and population genetics issues affecting the evaluation of the frequency or occurrence of DNA profiles calculated from pertinent population database(s).
- To recommend standards for acceptance of DNA profiles in the FBI's Combined DNA Index System (CODIS) which take account of relevant privacy, law enforcement and technical issues.
- To make recommendations for a system for grading proficiency testing performance to determine whether a laboratory is performing acceptably.

Throughout its deliberation concerning these quality standards, the DNA Advisory Board recognized the need for a mechanism to ensure compliance with the standards. An underlying premise for these discussions was that accreditation would be required to demonstrate compliance with the standards and therefore assure quality control and a quality program. The Board recommended that forensic laboratories performing DNA analysis seek such accreditation with all deliberate speed. After careful review, the Director's "Quality Assurance Standards for Forensic DNA Testing Laboratories" took effect on October 1, 1998. These national standards have now superseded the TWGDAM Guidelines for purposes of certifications required for the receipt of Federal funding as well as participation in the National DNA Index System.

Inherent within the standards is the intent to upgrade the educational background and experience of forensic scientists. The board spent a considerable amount of time discussing the qualifications for the Technical Manager/Leader. The Board strongly believed that this position required an individual with a minimum of a Masters degree in biology, chemistry, or a forensic science related area. A Technical Manager/Leader must have successfully completed a minimum of 12 semester or equivalent credit hours in courses covering biochemistry, genetics and molecular biology, or other subjects which provide a basic understanding of the foundations of forensic DNA analysis. In addition, this individual must have a working knowledge of statistics and/or population genetics. The Technical Manager/Leader of a

laboratory must have a minimum of three years of forensic DNA laboratory experience. The Board recognized that there are individuals who have been serving in the capacity of Technical Manager/Leader who do not meet the educational requirements specified by the standards. The standards included a provision for the waiver of the degree requirements for the Technical Manager/Leader. The waiver is only for the educational requirement and not for the three years of forensic DNA laboratory experience. ASCLD in conjunction with ASCLD/LAB has established a Credentials Review Committee to grant waivers to current Technical Managers/ Leaders, but who qualify based upon their knowledge and experience. The waiver is available for a period of two years from the effective date of the standards (October 1, 1998). In addition, the waiver is permanent and portable.

Forensic DNA identification analysis currently involves forensic casework and convicted offender analyses for inclusion in CODIS. Separate standards have been developed for laboratories performing the analysis of convicted offender samples. The separation was an acknowledgement of the differences in the nature or type of sample, the quantity and potential for reanalysis, and specialization that may exist in a laboratory. Standards for convicted offender laboratories, in some instances, are less stringent than for those performing forensic casework analyses, but in no case should the two documents be interpreted as conflicting. The Board forwarded its recommendations to the Director of the FBI, and after review issued his "Quality Assurance Standards For Convicted Offender DNA Databasing Laboratories". These standards became effective on April 1, 1999.

Pursuant to Section 210303 of the DNA Identification Act of 1994, the DNA Advisory Board was tasked with recommending standards for testing the proficiency of forensic laboratories that conduct analyses of DNA. The Act required that the National Institute of Justice (NIJ) review the availability and feasibility of blind external proficiency testing for forensic DNA analysis. A grant was awarded by NIJ, and after an extensive evaluation and review, the National Forensic DNA Review Panel (NFRDP) concluded that by defining "feasible" as possible and practicable in terms of costs and logistics....a national blind proficiency testing program employing....blind proficiency tests via law enforcement agencies, conduit laboratories and/or blind analyst models, **was not feasible at this time**. They recommended that the "accreditation system and associated quality assurance guidelines of the DAB should be given the opportunity to take hold, and that external case audits should be conducted regularly and serve as a measure of how well accreditation and its associated requirements are working in a quality assurance context". After a review of the NFRDP findings and recommendations, the DAB on April 23, 1999 issued a resolution concluding that a blind DNA proficiency testing program was not feasible at this time.

In compliance with the DNA Identification Act, the Board provided the Director of the FBI with a recommendation for a grading system to evaluate proficiency testing performance. Proficiency tests will be graded as satisfactory or unsatisfactory. A satisfactory grade is attained when there are no analytical errors for the DNA profile typing data. If any administrative errors are detected they must be documented and corrective actions taken to minimize the error in the future.

According to the requirements of the DNA Identification Act, the DAB will terminate on March 9, 2000, unless extended by the Director of the FBI. The DAB is currently evaluating, and will make recommendations concerning: the certification of forensic DNA personnel; and statistical/population genetic issues related to calculations involving uniqueness, sample mixtures, parentage, and CODIS database searches. Several of these issues will be discussed at the meeting.