State of Connecticut
Department of Emergency Services and Public Protection
Division of Scientific Services

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Division of Scientific Services

QUALITY MANUAL

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1. Scope

The Department of Emergency Services and Public Protection (DESPP), Division of Scientific Services provides forensic analyses of evidence submitted by Law Enforcement, Judicial Services and State and Federal Agencies. A listing of the type and extent of examinations and testing provided within the Divisional Laboratories is provided as Appendix 1 of this document.

2. Organization

The Division of Scientific Services is an entity of the Connecticut Department of Emergency Services and Public Protection, as illustrated in the Departmental Organizational Chart provided as Appendix 2 of this document. The Laboratory organization is illustrated in the Organizational Chart.

3. Introduction

The following information, provided in numerical order corresponding with the ASCLD/LAB International Criteria documents (ISO/IEC 17025:2005 and the Supplemental guide) presents the Laboratory's approach to conformance with the individual standard or criteria, with reference to specific operational guidance (SOP) and/or supportive documentation.

4.0 Management Requirements

4.1 **Organization**

4.1.1 The Division of Scientific Services (DSS) laboratories are part of the State of Connecticut Department of Emergency Services and Public Protection. The Connecticut DESPP is the legally responsible entity for the laboratory.

4.1.2 The DSS is authorized by section 29-7b of the Connecticut General Statues (Appendix 4 of this document). The responsibility of the DSS is to meet the requirements of the statute while also meeting the needs of its customers, the applicable requirements of ASCLD/LAB International, ISO/IEC 17025:2005, and the requirements of the DNA Quality Assurance Standards (QAS).

4.1.3 The Management System covers work performed by any and all of the laboratory sections within the Division of Scientific Services, whether work is being performed at the 278 Colony Street laboratory location, or as a function of off-site, or field-related operations. At this point in time, the Division has no off-site facilities, and has no crime-scene responsibilities.

4.1.4 While the Division of Scientific Services (DSS) is a part of a larger organization active in Law Enforcement and related activities, the relationship of the Division to the parent organization is designed to preclude any undue involvement or influence of Departmental Personnel. The DSS Director reports directly to the Commissioner of the Department of Emergency Services and Public Protection. The Deputy Directors, Quality Section and laboratory scientific staff has no reporting responsibility outside this direct chain of command.

4.1.4.1 The Director of the DSS and the Deputy Directors' have responsibilities and authorities as defined by the job description (see Appendixes 6 and 7).

4.1.4.1.1 The Director has the delegated authority through the Commissioner of the Department of Emergency Services and Public Protection to make and enforce decisions within the Division of Scientific Services as per Connecticut General Statute section 20-7b (see Appendix 4).

4.1.5 Laboratory Management Functions and Responsibilities:

a. Ensure adequate managerial and technical personnel and support staff to adequately implement, maintain and improve the management system. Such staffing will be adequate to identify and rectify any operational, procedural, managerial or other departures from standard laboratory practice. Laboratory management routinely evaluates the staffing levels, and communicates those needs to the Director. Appropriate adjustments are then made through standard Departmental administrative procedures.

b. Ensure that all management and laboratory personnel are free from any undue internal and/or external inappropriate influence or pressures that may adversely affect the quality of their work. Guidance to ensure that laboratory and DSS personnel are not subject to such influence is provided and detailed in SOP GL-05 "Ethics."

c. Ensure that each laboratory section has policies and procedures that address client confidentiality, proprietary rights and the secure storage and where applicable, transmission of electronic data, and that those policies and procedures are followed. General Laboratory SOP's GL-5 "Ethics" and GL-4 "LIMS2 and Justice Trax Application ~~LIMS/Justice Trax~~" address aspects of these issues.

d. Ensure that laboratory personnel avoid involvement in any activities that might be construed as compromising the forensic defensibility of the laboratory's analyses, reports or personnel integrity. Guidance in this area is provided in general SOP GL-5; "Ethics".

e. The Division of Scientific Services is one of several Divisions of the Department of Emergency Services and Public Protection. The Division consists of:

Laboratory Sections:

DNA; including Testing, DNA Database and Mitochondrial DNA (DNA)
Forensic Biology (FB)
Chemistry (CH)
Instrumentation (IN)
Trace (TR)
Latent Prints (LP)
Questioned Documents (QD)
Imprints (IM)
Firearms/Tool Marks (FA)
Multi-Media Digital Evidence (MM)
Computer Crimes/Electronic Evidence (CC)
Toxicology (TX)
Controlled Substances (CS)

Evidence Receiving
Computer Crimes – Investigations
Support Services
Information Technology
Administration

DSS Top Management consists of the Director and Deputy Directors. The Quality Manager reports directly to the Director.

Each Deputy Director reports to the Director. The DSS Director represents the laboratory to the Department of Emergency Services and Public Protection (DESPP), reporting directly to the Commissioner thereof. These relationships are detailed in the Divisional and Departmental Organization Charts.

f. The responsibility, and authority of technical personnel who manage, perform or verify analytical work in the laboratory disciplines specified in their specific job descriptions (Appendix 8) Interrelationships of personnel are indicated on the organizational chart.

4.1.5 f.1 Each subordinate is accountable to one and only one immediate supervisor per function, as detailed in the Divisional Organizational Chart.

g. Each Deputy Director is responsible for ensuring the adequate supervision of testing staff, including training of new employees by appropriate personnel. Training guidance is provided in the laboratory general SOP GL-14 “General Training” and in each section SOP’s as detailed below:

Electronic Evidence/Computer Crimes:		CC-25
Controlled Substance:		CS-13
Toxicology:		TX-30
Forensic Science:	(DNA)	DNA-7
	(Forensic Biology)	FB-31
	(Chemistry)	CH-15
	(Trace)	TR-1
	(Questioned Documents)	QD-19
	(Latent Prints)	LP-16
	(Multimedia)	MMIE-1 & 26
	(Firearms/Tool Marks)	CW-I-11
	(Imprints)	IM-14

h. The individual Deputy Directors have authority to oversee the technical operations of the laboratories they direct; this is done in concert with the Director. The Deputy Directors assure that the resources needed for each laboratory to perform the needed procedures are provided and that the quality of the analytical testing is maintained. Note that in accordance with the FBI DNA QAS document the DNA Technical Leader oversees the technical operations of the DNA laboratory and, the TL may be the Deputy Director of the section (or other title as designated by the Director).

The Director and the Quality Manager have approved a contingency plan for the designation of a Technical Leader in the DNA section in the event that the position requires refilling for any reason. The intent of this plan is to comply with section 4.1.6 of the FBI DNA QAS document. This addresses two distinct sets of circumstances; first, the appointment of a current employee that has the qualifications to be a Technical Leader per the FBI DNA QAS documents requirements and secondly, a plan to address the possibility that no current employee meets the requirements as set forth in the FBI DNA QAS documents. This plan is detailed in appendix 13.

4.1.5.h.1 Individuals identified as having technical responsibility for specific sections have appropriate training and experience in the discipline. See Appendix 9.

i. Duties of the Quality Manager include but are not limited to:

Maintain/Update the Quality Manual
Monitor laboratory practices to verify continuing compliance with policies and procedures related to quality
Evaluate instrument calibrations and maintenance records
Periodically assess the adequacy of report review activities
Ensure appropriate validation of new technical procedures
Assist Investigations of technical problems, propose remedial actions and verify their implementation

Administer proficiency tests and evaluate the results
Select, train and evaluate internal auditors
Schedule and coordinate management system audits
Evaluate results of management system audits
Maintain training records of laboratory personnel
Recommend training to improve the quality of the laboratory personnel
Propose corrections and improvements to the management system
Review QARs to assure completeness and appropriateness
Document and maintain approval of contract laboratories

j. Key managerial personnel include the Director, the Deputy Directors, Quality Manager, Assistant Quality Manager and other personnel as determined by the Director as needed.

In the absence of the Director or a Deputy Director the other Deputy Directors will act as their deputy. In the absence of a Deputy Director another Deputy Director will act as their deputy. In the absence of the Quality Manager or the Assistant Quality Manager the other will act as their deputy.

k. The relevance and importance of all DSS personnel in the overall criminal justice system, as well as their contributions to the laboratory management system is made clear to all employees during the training and orientation process, as detailed in SOP GL-14, "General Training". This is further emphasized during laboratory-wide and sectional meetings.

4.1.6 Top Management has appointed a Quality Manager and Assistant Quality Manager. The Quality Manager and Assistant Quality Manager work with Deputy Directors, section Supervisors and/or individuals appointed within laboratory sections to address quality assurance concerns. The management system incorporates a yearly review, the results of which are considered and evaluated by the Director and Deputy Directors, as detailed in SOP GL-8; "Management System Reviews."

4.1.7 The Division has a Health and Safety committee, headed by an appointed Health and Safety Officer. The committee is comprised of delegates from laboratory sections, as detailed in SOP GL-2; "Safety Manual."

4.1.8 The DSS laboratories define Key Management as: Employees of the DSS laboratory holding a title of Director, Deputy Director, Quality Manager, Assistant Quality Manager or other personnel, designated by the Director as required. Top Management as: employees holding the title of Director or Deputy Director.

4.2 Management System

4.2.1 The Division of Scientific Services' Management System is organized and communicated through the Standard Operating Procedures, both General and Laboratory Specific. These SOPs include a Quality Manual with administrative personnel-related directives, general SOPs that are applicable to all laboratory sections, laboratory-specific SOPs and specific work instructions (where applicable). The use of the Quality Manual in conjunction with laboratory specific SOP's is meant to ensure the quality of work produced in each laboratory. SOP distribution and availability is detailed in SOP GL-19 "Document Control".

4.2.2 The quality assurance program of the Division of Scientific Services is a comprehensive program designed to ensure the delivery of reliable forensic services to the Connecticut and Federal criminal justice systems. To this end, the management of the Division of Scientific Services is committed to supporting a Laboratory-Wide "Quality Policy" as detailed below:

The DSS Laboratories will demonstrate professional practice by providing:

a.

- A system to evaluate and demonstrate the technical competency of all analytical employees, assuring only forensically defensible results are reported. See laboratory specific SOPs and SOP GL-14; General Training.
- A system for case review that provides both technical and administrative review of casework documentation. See SOP GL-18; Case Review.
- A system for procedural development, modification and validation. See Laboratory Specific SOPs.
- A comprehensive system of quality control, such that all analyses and analytical batches may be individually evaluated for procedural function. See SOP GL-18; Case Review System
- A system for monitoring courtroom testimony of Laboratory employees. See SOP GL-17; Court monitoring.
- A system to deal with problems or discrepancies which may occur during the handling of case materials, evidence analysis, or reporting of results. See SOP GL-9; Quality Action Requests.
- A comprehensive system of reagent and standard validation, such that the analyst has a maximal expectation of procedural function and accuracy. See Laboratory Specific SOPs

b.

- A Standard of Service of forensic analysis and support that is unbiased, scientifically sound, consistent with current accepted laboratory standards, and may be relied upon by all aspect of the Criminal Justice system.
- A management system that works to support and enhance the quality system of the Laboratories. See SOP GL-7; Audits.

c.

- A mechanism for the continuous review of the management system, with a goal of improvement of the overall effectiveness of the system, thereby enhancing the overall

quality of analyses performed and overall customer satisfaction. See SOP GL-8; Management System Reviews.

d.
- A system, which assures that analytical personnel are familiar with the quality manual and with the quality procedures that are required for the work they perform. See SOP GL-19; Document Control.

e.
- Adherence to ASCLD/LAB International and ISO/IEC 17025 standards and FBI DNA QAS. See SOP GL-7; Audits.

4.2.2.1 The ASCLD/LAB *Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists* is used as a reference for ethical and appropriate professional behavior within the laboratories. (Appendix 10).

4.2.2.2 The ASCLD/LAB *Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists* is reviewed annually with all personnel and a record of the review will be maintained for 10 years, as detailed in SOP GL-5; "Ethics."

4.2.3 To continually monitor and improve the Management System, the top management of the Division of Scientific Services uses Audits, QARs, customer feedback and Proficiency testing records to identify areas that need development. Review of these items allows the Director and Deputy Directors to evaluate the Quality System for effectiveness, and to identify potential areas for improvement. A review of the Quality System will be scheduled and used to develop and implement any needed improvements to the system, this is specified in SOP GL-8; "Management System Review."

4.2.4 The Divisional Mission Statement emphasizes the importance of servicing customer needs and requirements. Statutory and regulatory requirements for analytical work performed in each section are addressed in the training SOP's for those sections, as noted below:

Electronic Evidence/Computer Crimes:		CC-25
Controlled Substance:		CS-13
Toxicology:		TX-30
Forensic Science:	(DNA)	DNA-1
	(Chemistry)	CH-15
	(Trace)	TR-1
	(Latent Prints)	LP-15
	(Multimedia)	MMIE-26
	(Firearms/Tool Marks)	CW-I-11

4.2.5 The Quality Manual ("QM"; SOP GL-01) serves as the central organizing element for the procedural documentation of the laboratory. The Quality Manual makes reference to specific procedures, and outlines the structure of the documentation used in the quality system.

The Management system for the Laboratories includes documentation that is common to all laboratory sections and those that are specific to the individual laboratories. Those common to all areas are the Quality Manual, General Laboratory (GL) Standard Operating Procedures, Safety Manual and Administrative Directives.

The Quality Manual is the backbone of the quality system for the laboratory as a whole; individual sections can adjust their quality system to be more rigorous then the quality manual but not to be less rigorous.

General Laboratory Standard Operating Procedures: these are specific procedures that are followed universally by all laboratory sections. These include guidance for subjects such as court monitoring, quality action requests and proficiency testing.

The Safety Manual includes guidance for general laboratory safety issues that are faced by laboratories; individual procedures per laboratory may require specific safety precautions, which will be exclusive to the procedure of the section.
The Administrative Directives include general information for employees, which although important to be communicated to employees, are not likely to affect the quality of work performed. These include topics such as Internet use, dress codes and phone use.

Documents used within Laboratory Sections Include:

SOPs (Standard Operating Procedures): General instructions for the performance of the analytical analysis performed in the various laboratory sections.
Work Instructions: Specific instructions for operating equipment or performing tasks specific to the various laboratory sections. Note that some sections do not use these, the direction is directly in the section SOPs.
Training SOP: Individual procedures meant for guiding new employees or employees new to the section through the basics of the analysis.

For issues such as internet use, computer use, phone use, dress codes, time off requests and engaging in outside employment laboratory employees will refer to Departmental guidance such as that given in the pertinent sections of the A&O manual.

4.2.6 The roles and responsibilities of technical management, and the Quality Manager, including their responsibility for ensuring compliance with the ASCLD/LAB ISO/IEC 17025 International Standard and the FBI Quality Assurance Standards are defined as detailed below:

Director:
Serves as the scientific management and laboratory representative within the Department of Emergency Services and Public Protection /Division of Scientific Services and is responsible for the overall operation of the Division Laboratories. The Director acts to support the Deputy Directors for both administrative and scientific matters. The Director is responsible for ensuring that work and personnel assignments are structured in such a manner as to allow for efficient operation of the laboratory. The Director is responsible for establishment and implementation of the Quality Assurance/ Management system of the laboratory, in association with the Division Quality Manager. The Director and Quality Manager ensure that the Quality System includes all components necessary to comply with ASCLD/LAB International, ISO/IEC 17025 and the FBI Quality Assurance Standards. The Director works in conjunction with the Deputy Directors, Quality Manager, Assistant Quality Manager and section Supervisors to Monitor the Quality System and make improvements as needed.

Deputy Director:
There are Deputy Directors that direct specific laboratory sections within the Division, as determined to be appropriate by the Director. The Deputy Directors report directly to the Director and are responsible for the overall operation of their designated laboratories, including analytical processes, evidence handling, and security. The Deputy Directors are responsible for ensuring that work and personnel assignments are structured in such a manner as to allow for efficient operation of the laboratory. The Deputy Directors are responsible to support the Quality Assurance/ Management system of the laboratory, in association with the Quality Manager. As part of this they must ensure that the Quality System includes all components necessary to comply with ASCLD/LAB International and ISO/IEC 17025. The Deputy Directors work in conjunction with the Quality Section and section Supervisors to Monitor the Quality System and make improvements as needed.

Quality Manager (QM):
The Quality Manager is a central and essential position within the laboratory; the QM serves to facilitate the implementation of the overall quality system. As such, the Quality Manager is responsible for the monitoring of the Quality System and identifying deviations or potential deviations from the system. The QM will strive to improve the overall Quality System of the laboratory. The Quality Manager works directly with the Director, Deputy Directors and the Assistant Quality Manager to ensure that the Quality System meets the requirements of ASCLD/LAB International, ISO/IEC 17025 and the FBI DNA Quality Assurance Standards. The Quality Manager is also a source of guidance for section

Supervisors to aid them in achieving the goals of the quality system. (See 4.1.5, i for specific duties as related to the Management System).

Assistant Quality Manager (AQM):

The assistant Quality Manager will work with the Quality Manager to monitor the Quality System of the laboratory. The AQM assists in identifying deviations and areas for improvement within the system. Together the AQM and QM monitor the Quality System to assure compliance with ASCLD/LAB International, ISO/IEC 17025 and the FBI Quality Assurance Standards.

Section Supervisors:

Supervisors directly monitor all aspects of work in their Laboratories. They must have a thorough understanding of the Quality System in how it relates to the work performed in their assigned areas. They must assure that analysts follow all procedures and quality control measures for the tasks being performed. They assure that through training, analysts are made aware of the specific quality procedures for the assigned tasks. They (or their designee) document all aspects of training for new employees, including competency testing. They work closely with the Deputy Director and the Quality Section to identify what individuals require proficiency testing and in what discipline. The section Supervisors should have an understanding of the ASCLD/LAB International accreditation process and of the ISO/IEC 17025 standard. DNA Section Supervisors are also responsible to have an understanding of the FBI DNA Quality Assurance Standards.

4.2.7 Management has ensured that the integrity of the Management system is maintained when changes to that system are planned or implemented by requiring that all changes to the Management System flow through the QM, as specified in SOP GL-19; "Document Control". When a change is required to a general laboratory (GL) SOP, the individual identifying the needed change completes a 'Controlled Document Change Request' form. When changes are requested, the QM or the AQMs will review the presented information and analyze it to determine how it could potentially affect all sections. As part of the review of any such proposed change, the QM will work in coordination with the Deputy Directors or Director, as appropriate. Changes must be such that they maintain the integrity of the Management System so that the system continuous to meet the requirements of our customers and the criteria set forth by ASCLD/LAB International and ISO/IEC 17025. When a change to a GL SOP is approved, the Director or their designee will sign the updated version.

The Quality Manager is responsible to assure that all changes to the Management System are made available to all employees. Distribution may be met through the posting of the documents(s) on the shared computer drive of the WAN (Wide Area Network) system and notification of the posting to the employees. Major changes may require meetings with the employees to discuss the changes and their implications for the work being

performed. Minor changes will be communicated through the Deputy Directors or section Supervisors as appropriate, when the updated documents are issued.
Changes to Laboratory Specific documents (SOPs) will flow through the Quality Section. The Quality Manager or Assistant Quality Manager will work with the Deputy Director and/or section Supervisor (or Technical Leader in the DNA section) of the specific area to determine how the change will affect the procedure in question and if the change will still allow the customer's needs to be met. They must also assure that the change is not contradictory to any components of the Quality Manual. Changes to SOPs are approved by the ~~Laboratory's~~ Deputy Director, (or designee in cases of emergencies), prior to the change being implemented. Once approved the Quality Manager or Assistance Quality Manager will update the SOP in question and assure that it is distributed to all appropriate employees. The Deputy Director and section Supervisor will assure that the analysts performing the procedure implement the changes.

4.3 Document Control

4.3.1 Control of original Management System documents will be through the Quality Section ~~Management Team~~, as detailed in SOP GL-19; "Document Control". ~~Each section QM~~ The Quality section will maintain a single signed controlled paper copy of ~~the~~ all SOP's ~~specific to their laboratory~~. All Management System documents applicable to all ~~three Laboratories~~ section disciplines will be maintained by the Quality Section ~~DQM~~. The ~~DQM~~ Quality Section will maintain a single signed controlled paper copy of these documents.

The ~~DQM~~ Quality Section is responsible to maintain all the GL SOPs on the WAN Shared drive, and to inform all employees when updates are made. The Quality Section is ~~SQMs are~~ responsible to maintain section specific SOPs on the WAN Shared drive, and to inform all employees of updates as they are made. It is acceptable for section laboratories to maintain paper controlled copies of the section SOPs if computer access is limited in the section and it is agreed upon by the section Supervisor and the Quality Section ~~SQM~~. If this is done, the copies will be managed by the Quality Section ~~SQM~~.

4.3.2 Document Approval and Issue

4.3.2.1 Preparation and maintenance of a master list of controlled documents, detailing review and approval prior to issue is described in SOP GL-19; "Document Control." This SOP also describes document control procedures allowing identification of the current revision status and distribution of documents.

4.3.2.2 (a-d) SOP GL-19; "Document Control" addresses the following issues:

a) Distribution of Management System Documents. The SOP specifies that appropriate, authorized editions of essential laboratory documents are available to analysts and other appropriate personnel, at their workstations. All SOPs are available on the WAN Shared drive in the "Controlled SOPs" file; only the current SOPs will be maintained in this folder.

Controlled copies of Standard Operating Procedures and work instructions as appropriate, which are section specific, will be made available to the supervisors and analysts (however titled) who perform casework or case technical review in the section via the WAN shared drive. ~~Section Quality Mangers~~ The Quality Section may choose to issue electronic versions of controlled copies or paper copies based on the specific needs of the section. The Quality Section ~~SQM~~ with the Section Supervisors may chooses to have controlled SOPs available via the specific LAN (Local Area Network) server based on the availability of computer systems in the various laboratories. All controlled copies whether paper or electronic will be tracked through the Document Control list maintained by the Quality Section ~~SQM~~.

Controlled Copies of General Laboratory Standard Operating Procedures are available on the WAN Shared drive in the "Controlled SOPs" file. The Quality Section ~~DQM~~ will maintain the one signed controlled paper copy of the GL-SOPs.

b) Documents Review. The SOP specifies that all management system documents will be reviewed at least annually to assure that they are still suitable for the task and are compliant to any applicable requirements.

c) Removal of expired, invalid, or obsolete documents. The SOP specifies that ~~Laboratory Section~~ the Quality Section will ~~Managers~~ ensure that expired, invalid, or obsolete documents are removed from points of issue or use when appropriate, or when superseded by new documents.

d) Retention of Copies. The SOP specifies that original copies of management system documents be maintained for a period of not less than 10 years from date of expiration.

4.3.2.3 The identification system for documents is detailed in SOP GL-19 "Document Control" Briefly; the Quality Section ~~QMT~~ will maintain a master list of all Management System documents, including the document title and ID, current revision number and issue date, and the location of controlled document. The Document Control list will be available on the WAN shared drive in the "Controlled SOP" file.

4.3.3 Document Changes

4.3.3.1 Document changes are subject to the same review and approval processes as required for original document issue, as specified in SOP GL-19; "Document Control." The review and approval process is required to include access to pertinent background information.

4.3.3.2 Altered and/or new text is identified in modified documents or attachments, as appropriate, as specified in SOP GL-19; "Document Control".

4.3.3.3 The DSS Laboratories do not allow for hand written changes to Management System documents, as detailed in SOP GL-19; "Document Control."

4.3.3.4 Document changes in computerized documents is detailed in SOP GL-19; "Document Control".

4.4 Review of Requests, Tenders, and Contracts

4.4.1 The Division of Scientific Services Laboratories' procedure for the review of Requests, Tenders and Contracts is detailed in SOP GL-20 "Review of Requests and Tenders" and SOP GL-12; "Evidence Receiving". The contract for testing of materials submitted to the Laboratories is as follows:

Agencies submitting evidence to the Division of Scientific Services Laboratories for specific analysis agree to allow the laboratory to determine the appropriate methodology for the evidence submitted. Descriptions of analyses offered by the Division of Scientific Services Laboratories are detailed on our website. If the laboratory needs to deviate from standard test methodologies you or your agency will be contacted prior to the analysis being performed. The laboratory reserves the right to use contract laboratories to perform case analysis as needed. This contract serves to inform you as the client of this potential event. In the event a contract laboratory is used the name and address of the contract laboratory will be stated on the laboratory report to the submitting agency. Any concerns or specific requests about the required testing can be discussed with the section supervisor or ~~Laboratory~~ Director prior to case analysis.

SOP GL-20 Review of Requests and Tenders specifies that:

a) Methods to be used are adequately defined, documented, and understood.
b) The laboratory has the capability and resources to meet the requirements of the contract
c) The appropriate testing is capable of meeting the customer's requirements
d) Differences between the request and the contract will be resolved prior to the commencement of casework

e) Each contract shall be acceptable to both the laboratory and the customer

4.4.2 All pertinent case review documents/documentation are maintained by the laboratory, as specified in section-specific SOP's addressing case notes and documentation, as noted below. Pertinent discussions with customers relating to casework are similarly documented and maintained.

Electronic Evidence/Computer Crimes:		CC-10
Controlled Substance:		CS-1
Toxicology:		TX-5
Forensic Science:	(DNA)	DNA-1
	(Forensic Biology)	FB-05
	(Chemistry)	CH-11
	(Trace)	TR-19
	(Questioned Documents)	QD-3
	(Latent Prints)	LP-24
	(Multimedia)	MMIE-2,4,5,8,9,10,14 & 27
	(Firearms/Tool Marks)	APP-1
	(Imprints)	IM-12

4.4.3 Sub-contracting: ~~At the present time, the Laboratories do not sub-contract case work~~. In the event the Division of Scientific Services chooses to sub-contract case work the criteria set forth by ASCLD/LAB International documents and the FBI DNA QAS document will be followed. Contracts with sub-contractors will be reviewed annually, if the contract is maintained. Laboratory sections using sub-contractors may include section specific requirements in section SOPs.

4.4.4 Contract Deviation: If a major deviation from the contract is required on a case, the customer (submitting agency) will be informed prior to performing the deviation, as detailed in SOP GL-20 "Review of Requests and Tenders".

4.4.5 If, during the process of working a case, a change to the contract is required the analyst or their supervisor will contact the submitting agency to discuss the change; such discussion will be noted in the case file (date, person contacted and topics discussed will be included along with the initials of the person that made the contact). The analyst should consider the guidelines in 4.4.4 to determine if the change is sufficient enough to warrant contacting the customer. This process is detailed in SOP GL-20 "Review of Requests and Tenders

4.5 Subcontracting of Tests: in the event the Division desires to sub-contract case work the Director will approve the contract vendor based on competency of the vendor.

4.5.1

The Quality Section is responsible to identify competent sub-contractors and maintain the records to demonstrate that competency.

Competent is defined as a laboratory that has gained accreditation through an accrediting body in the specific discipline of work required. Acceptable accrediting bodies include but are not limited to ASCLD/LAB, ABFT, FQS, AL2A, and NFSTC, or other laboratories that can demonstrate ISO/IEC 17025 accreditation.

As a need arises the Quality Section will work with the Director or Deputy Directors to identify a contract laboratory that best meets the needs of the Division and its customers. If DNA cases are to be sub-contracted the DNA TL will determine the competency of the contract laboratory based on the guidance of the FBI DNA QAS document.

4.5.2

The Division maintains the right, as defined in our customer contract, to sub-contract work. In the event that there is not a signed customer contract for a case identified to be contracted out, a letter will be sent to the submitting agency informing them of the laboratories intent to contract out case materials they had submitted. The customer may or may not be contacted on a case by case basis based on the reason for the need to sub-contract the work.

When the work that is being sub-contracted out is based on individual case need; such as testing required that the Division does not perform the submitting agency will be contacted prior to sending the specific samples to the contract laboratory.

When the work being sub-contracted out is based on the needs of the laboratory, such as for backlog reduction, and the testing being sub-contracted out is within the scope of normal testing the customer will not be informed on an individual case basis; since this is within the definition of the Divisions contract with its customer.

4.5.3

When case work is sub-contracted, the DSS laboratory has the following options for reporting the findings to the customer:

- Issue the sub-contractors report directly to the submitting agency with a letter describing the actions taken. The laboratory section will assure that case review process occurs and that the report sent to the customer meets all laboratory requirements.
- Issue a DSS laboratory report based on the data generated from the contract laboratory. The data generated from the contracted laboratory will be reviewed for accuracy. A laboratory report will be issued based on the findings of any work performed by the Division and by the data generated by the sub-contracted laboratory. Where applicable the DSS section will review sub-contracted work and make interpretations and conclusions based on that work. The laboratory report will clearly state what analysis (however titled) was performed by the contract laboratory; the report will include the name and address of the contract laboratory. The laboratory report will be subjected to

the normal case review process of both a Technical and Administrative review.

The Division of Scientific Services retains responsibility for case reports produced and issued to the client based on work performed in a contract laboratory.

4.5.4

The Quality Section will maintain a list of contract laboratories that have been deemed competent. This information will minimally include the name and contact information of the contracted laboratory, a copy of their accreditation certificate and the scope of the accreditation (or other document demonstrating accreditation in the specific required field).

~~4.5.1 4.5.4 Not Currently Applicable; The Division of Scientific Services Laboratories currently does not subcontract work.~~

4.6 Purchasing Services and Supplies

4.6.1 Each laboratory section selects and purchases services and supplies as detailed in SOP GL-6; "Purchasing." This SOP also addresses receipt and distribution of materials. Storage of reagents and laboratory consumable materials is detailed in section-specific SOP's;

Controlled Substance:		CS-1
Toxicology:		TX-17
Forensic Science:	(DNA)	DNA-8.1
	(Forensic Biology)	FB-27 & 28
	(Chemistry)	CH-12
	(Trace)	TR-Appendix B
	(Latent Prints)	LP-3 & 4
	(Imprints)	IM-2

4.6.2 Procedures to ensure suitability of purchased supplies, reagents and consumable materials prior to use, are addressed in SOP GL-6 "Purchasing". Further, section-specific guidance is maintained in Section Specific SOP's as follows:

Controlled Substance:		CS-1
Toxicology:		TX-19
Forensic Science:	(DNA)	DNA-8.1
	(Forensic Biology)	FB-20-28
	(Chemistry)	CH-12
	(Trace)	TR-Appendix B
	(Latent Prints)	LP-3 & 4

(Firearms/Tool Marks)	QR-FA-8
(Imprints)	IM-2

4.6.3 SOP GL-6 "Purchasing" specifies that documents (SP33's) produced to purchase critical consumables or reagents will be reviewed by and signed by a supervisor or higher prior to being sent to fiscal for the purchasing order.

4.6.4 SOP GL-6 "Purchasing" specifies that the laboratory shall evaluate vendors to determine if they meet the minimum requirements for critical consumables and critical reagents through the use of a questionnaire. A list of the approved vendors and associated documentation is maintained in Laboratory Administration.

4.7 Service to the Customer

4.7.1 The Quality System utilized by the laboratory includes reviews and evaluations of the Laboratories' willingness to cooperate with customers to clarify their requests and monitor the Laboratories' performance relative to the work performed. (SOP GL-8; "Management System Review" and GL-10; "Customer Issues/Feedback")

4.7.2 The Division seeks feedback from all customers, including but not limited to State and Local police departments, Federal Agencies, Chief State Attorneys Office, State Public Defenders Office, our employees and other State agencies. Feedback both positive and negative will be reviewed periodically to continuously improve the laboratory and the service provided to our customers. Methods to solicit feedback include court monitoring forms, customer surveys and customer inquiry forms, as specified in SOP GL-10; "Customer Issues/Feedback."

4.8 **Complaints**:
Complaints will be handled as prescribed by SOP GL-10; Customer Issues/Feedback." Complaints are channeled though the Quality Section ~~section Quality Managers or the QMT~~ for review and action.

4.8.1 SOP GL-10; "Customer Issue/Feedback" specifically addresses complaints that may reflect quality issues within the laboratory.

4.9 Control of Nonconforming Testing Work

4.9.1 Each laboratory analytical SOP describes acceptable and unacceptable analytical work, and the criteria for such designation (e.g. instrumental or control material failure). These SOPs including steps to be taken when analytical procedures, and/or analyses fail either as individual samples or when the associated quality control material(s) fail to provide acceptable results. These procedures specify:

a. The responsibility of the individual analyst to inform their Supervisor and SQM of the issue. The supervisor must work with the SQM/Laboratory Director and/or the Division Quality Manager (as appropriate) to determine the extent of the non-conformity and how to correct the non-conformity. Existing review/reporting criteria preclude report issuance based on any non-conforming analytical procedure/result. In the DNA laboratory the TL will also be included in this process.

b. That the Supervisor/SQM/Laboratory Director must determine the significance of the nonconforming work.

c. That the Supervisor/SQM/Laboratory Director will take action to determine if any case results were affected and determine if any remedial action is necessary.

d. That when appropriate, the customer will be notified and any affected reports will be recalled.

e. That if, in consequence to the identification of nonconforming work, procedures or processes are halted, (as opposed to merely analysis or batch rejection) the responsibility for resumption of such procedures rests with the Laboratory Director, or their designee.

4.9.2 The laboratory initiates a "Quality Action Request" when non-conformity arises that could recur and/or raises doubt or question about compliance with laboratory procedures. This process is detailed in SOP GL-9;"Quality Action Requests."

4.10 Improvement

The Laboratories work to continually improve the effectiveness of the management system by the application of the overall quality policy, implementation of routine quality control practices, use of technical and administrative case reviews, and evaluation of annual audits as a tool to ensure continuous improvement. (SOP's GL-8; Management System Review; GL-7; Audits; Section SOP's detailing QC criteria)

4.11 Corrective Action

4.11.1 General

The Laboratories of the Division of Scientific Services have established policies and procedures to be implemented when nonconforming work or departures from the policies and procedures specified in the Quality Manual and/or the SOP's have been identified, as specified in GL-9; "Quality Action Requests." The implementation of these corrective actions starts with the initiation of a QAR as detailed in the SOP noted above.

4.11.2 Cause Analysis
When a QAR has been assigned to a SQM, section Supervisor or designee of the specific Laboratory Section, an investigation to determine the root cause or causes shall be conducted following as per section GL-9; "Quality Action Requests."

4.11.3 Selection and Implementation of Corrective Actions
The process of identification and selection of potential corrective actions, is specified to be carried out in such a manner as to select and implement the action(s) most likely to eliminate the problem and to prevent recurrence, and to a degree appropriate to the magnitude and risk of the problem, and be appropriately documented as detailed in SOP GL-9; "Quality Action Requests."

4.11.4 Monitoring of Corrective Actions:
Corrective actions are monitored and recorded to ensure their effectiveness in accordance with SOP GL-9; "Quality Action Requests."

4.11.5 Additional Audits:
When it has been established through the process of a QAR that the nonconformance or procedural departures cast doubt on the laboratory's compliance with its own policies and procedures, or with ASCLD-LAB/ISO 17025 Standards, the laboratory will ensure that the appropriate areas of activity are audited in accordance with SOP GL-7; "Audits" in a timely manner.

4.12 Preventive Action

4.12.1 When improvement opportunities are identified by any laboratory personnel, or process (e.g. management review, audit or other means) a QAR will be initiated by a member of the QMT, as per SOP GL-9; "Quality Action Requests."

4.12.2 Implementation of preventative actions are specified to include appropriate controls to ensure the effectiveness of such preventative actions, as specified in SOP GL-9; "Quality Action Requests."

4.13 Control of Records

4.13.1 General

4.13.1.1 The Laboratories have established procedures for record control, including identification, collection, indexing, access, filing, storage, maintenance, and disposal of quality and technical records, including reports from internal audits and management reviews as well as records of corrective and preventive actions, as detailed in SOP GL-11; "Control of Records."

4.13.1.2 SOP GL-11; "Control of Records" specifies that all records are prepared in a legible manner and are stored and retained so as to be readily retrievable. Further, that such record is stored in locations that provide a suitable environment to prevent damage or deterioration and to prevent loss.

4.13.1.3 SOP GL-11; "Control of Records" specifies that all records are stored in a secure manner.

4.13.1.4 SOP GL-11; "Control of Records" and GL-4; "LIMS2 and Justice Trax Application ~~LIMS/Justice Trax~~" specifies that all electronic records are protected, backed-up, and stored in such a manner as to prevent unauthorized access to, or amendment of, these records.

4.13.2 Technical Records

4.13.2.1 SOP GL-11; "Control of Records" specifies that all significant records generated during the course of laboratory analysis are maintained within the case file. Further, that records for each test shall contain sufficient information to facilitate, if possible, identification of factors affecting the uncertainty of the test, and to enable the test to be repeated under conditions as close as possible to the original. Also, that case records include the identity of all personnel responsible for the sampling, performance of each test, and of all review processes.

4.13.2.2 SOP GL-11; "Control of Records" specifies that observations, data and calculations shall be recorded at the time they are made and shall be identifiable to the specific task, and that test results are rejected, the reason for the rejection will be recorded.

4.13.2.2.1 SOP GL-11; "Control of Records" specifies that case documentation shall reflect the date(s) of examination.

4.13.2.2.2 Changes to completed examination records, either hard copy or electronic are tracked so that any change is clearly documented as detailed in individual section SOP's, and SOP GL-11; "Control of Records Completed examination records include those generated prior to technical or administrative reviews of the record.

4.13.2.3 SOP GL-11; "Control of Records" specifies that when mistakes in records are found, each mistake will be crossed out with a single line and the correct value/change entered alongside. These alterations will be initialed by the individual making the correction. In the case of electronic records, a copy of the original record will be maintained and a new copy will be generated reflecting the correction.

4.13.2.3.1 SOP GL-11; "Control of Records" specifies that if, during the technical review process, changes are required to the examination worksheets or other case documentation, the change will be initialed by the individual making that change.

4.13.2.4 Each laboratory specifies appropriate and required case record documentation in SOPs as detailed below:

Electronic Evidence/Computer Crimes:		CC-10
Controlled Substance:		CS-1
Toxicology:		TX-5
Forensic Science:	(DNA)	DNA-1
	(Forensic Biology)	FB-05
	(Chemistry)	CH-05
	(Trace)	TR-19
	(Questioned Documents)	QD-3
	(Latent Prints)	LP-1 & 2
	(Multimedia)	MMIE-3
	(Firearms/Toolmarks)	APP-1
	(Imprints)	IM-13

4.13.2.5 SOP GL-11; "Control of Records" specifies that case records include sufficient data to facilitate and allow another competent analyst or supervisor to evaluate

4.13.2.5.1 SOP LP-6 in the Latent Print Discipline specifies that conclusions shall meet all applicable requirements in "ASCLD/LAB Latent Print Examination Documentation."

4.13.2.5.2 When instrumental analysis is performed, the routine working parameters of the instrument used will be documented in the appropriate sectional procedural SOP's. Any significant departure from such parameters shall be documented in case documentation as detailed in individual laboratory SOP's.

4.13.2.6 SOP GL-11; "Control of Records" specifies that a unique case identifier and analyst's handwritten initials shall be on each page of their examination documents in the case record.

4.13.2.7 SOP GL-11; "Control of Records" specifies that any documentation in the case jacket prepared by another analyst, or an individual other than the case analyst(s), must have that individuals initials on all such pages.

4.13.2.8 SOP GL-11; "Control of Records" specifies that all administrative documents contained in the case jacket will contain the unique case identifier.

4.13.2.9 SOP GL-11; "Control of Records" specifies that when multiple case data is recorded on a single printout (e.g. Toxicology Batch Summary Sheet), the unique case identifier will be appropriately recorded.

4.13.2.10 SOP GL-11; "Control of Records" specifies that when examination records are present on both sides of a single page, both sides of the page will be considered and treated as a separate page.

4.13.2.11 SOP GL-11; "Control of Records" specifies that examination worksheets shall be completed using a permanent form of a writing device. Examples of such devices include, but are not limited to: pens, permanent markers, and laser inkjet printers. However, colored pencils may be used for sketches and drawings.

4.13.2.12 SOP GL-11; "Control of Records" specifies that when an independent check of a critical finding has been performed, that check will be carried out by an individual having expertise in the field, gained through knowledge, training and experience. A record of this review will be made to confirm the critical finding. This record will include, by whom and when the check was performed, and will be maintained in the case jacket.

4.13.2.13 SOP GL-11; "Control of Records" specifies that any non-common abbreviations or symbols specific to a DSS Laboratory section that are used in the examination worksheets will be maintained either as a list available within the section or in individual section SOPs, as detailed below:

Electronic Evidence/Computer Crimes:		CC-26
Toxicology:		TX-19
Forensic Science:	(DNA)	DNA -1
	(Forensic Biology)	FB-04
	(Chemistry)	CH-2
	(Trace)	TR-20
	(Questioned Documents)	QD-5
	(Latent Prints)	LP-5
	(Multimedia)	MMIE-25
	(Firearms/Toolmarks)	CW-I-9

4.14 Internal Audits**:**

The Division of Scientific Services is committed to provide auditing training for its members with the intent of providing the best quality management system and insuring with ASCLD-LAB ISO 17025 requirements and the FBI DNA QAS.

4.14.1 SOP GL-7; "Audits" specifies the process by which each of the ~~three Laboratories~~ laboratory sections of the DSS will conduct internal audits. This process is used to verify that all Laboratory operations are complying with the Management System and the ASCLD/LAB International Standard and the FBI DNA Quality Assurance Standards. These internal audits address all elements of the Management System. The ~~Division~~ Quality Manger is responsible for planning and organizing these audits according to schedule, and as requested by management. Note: The DNA internal audit will be scheduled and performed by the DNA technical leader with a designated audit team as required by the QAS document. These audits will be conducted by trained and qualified personnel who are, whenever resources permit, independent of the activity being audited. All internal laboratory audits are reviewed by the Director ~~DLD~~ and ~~DQM~~ Quality Manager.

4.14.1.1 SOP GL-7; "Audits" specifies that audits will be conducted at least annually.

4.14.1.2 SOP GL-7; "Audits" specifies that audits are documented and will be retained for at least one ASCLD/LAB-International cycle of accreditation.

4.14.2 SOP GL-7; "Audits" specifies that when internal audit findings cast doubt on the effectiveness of the operations or on the correctness or validity of the laboratory's test results, the laboratory will initiate, in a timely manner, a QAR. In addition, effected customers will be notified in writing if investigations show that the laboratory results may have been affected.

4.14.3 SOP GL-7; "Audits" specifies that the audit records will be maintained as noted ` in 4.14.1.2, above.

4.14.4 SOP GL-7; "Audits" specifies that audit activities shall verify and record the implementation and effectiveness of any corrective action taken.

4.14.5 SOP GL-7; "Audits" specifies that DSS will submit an Annual Accreditation Audit Report to ASCLD-LAB International within 30 calendar days of the date of the laboratories accreditation anniversary date.

4.15 Management Reviews

4.15.1 SOP GL-8; "Management System Reviews" specifies that Laboratory Top Management will conduct a System Review on a defined schedule to ensure the suitability and effectiveness of the Quality System and any introduced changes to that

system or overall laboratory operation. As a function of this review process, changes and or improvements may be introduced to the laboratory system.

This management review will take into account the following areas:

- the suitability of policies and procedures
- reports from managerial and supervisory personnel
- the outcome of recent internal and external audits
- corrective and preventive actions
- assessments by external bodies
- the results of inter-laboratory comparisons or proficiency tests
- changes in the volume and type of the work
- customer feedback
- complaints
- recommendations for improvement
- other factors, e.g. quality control activities, resources and staff training

4.15.1.1 SOP GL-8; "Management System Reviews" specifies that management reviews will be conducted at least once annually.

4.15.1.2 SOP GL-8; "Management System Reviews" specifies that management reviews will be documented, and that documentation produced from management reviews will be retained for at least one ASCLD/LAB-International cycle of accreditation.

4.15.2 SOP GL-8; "Management System Reviews" specifies that records of findings and actions that arise from management reviews will be maintained, and that any remedial actions are implemented within a timely manner.

5 Technical Requirements

5.1 General

5.1.1 Procedural Correctness and Reliability Factors
Factors include but are not limited to:

Human factors
Accommodation and environmental conditions
Test and calibration methods and method validation
Equipment
Measurement traceability
Sampling
Handling of test and calibration items

5.1.2 Each DSS laboratory specifies that factors that may affect measurement uncertainty, (as noted in 5.1.1) are considered as applicable, in developing testing methods and procedures, training and qualification of personnel, and in equipment selection and calibration, as detailed in section-specific SOP's, identified as follows:

Electronic Evidence/Computer Crimes:	N/A
Controlled Substance:	CS-2 & 5
Toxicology:	TX-21,21A, 22,23,24,25,26,27 & 28
Firearms/Toolmarks	FA-I-5 & CW-I13

5.1.3 ~~Each~~ The DSS Laboratory specifies procedures for routinely checking the reliability of their reagents as detailed in section specific SOP's identified as follows:

Controlled Substance:		CS-3
Toxicology:		TX-1
Forensic Science:	(DNA)	DNA-8.1 &1
	(Forensic Biology)	FB-7,8,9,11,15,16 & 17
	(Chemistry)	CH-13
	(Trace)	TR-2 & 16
	(Latent Prints)	LP-3 & 4
	(Firearms/Toolmarks)	APP-1

5.1.3.1 Each DSS Laboratory specifies procedures for labeling reagents prepared in the laboratory, and that records will be maintained identifying the reagent preparer, and that it was tested and worked as expected to check the reliability of the reagent, as detailed below:

Controlled Substance:		CS-3
Toxicology:		TX-19
Forensic Science:	(DNA)	DNA-8.1 & 8.2
	(Forensic Biology)	FB-20-27
	(Chemistry)	CH-13
	(Trace)	TR-2

	(Latent Prints)	LP-3
	(Firearms/Toolmarks)	TM-II-2, TM-II-4 & QR-FA-8

5.2 Personnel

5.2.1 All analytical personnel of DSS are required to receive appropriate training and demonstrate competency, as per individual section SOP's (specified below) prior to performing casework. These SOP's further specify that individual employees will, during their training process, receive appropriate supervision when performing analytical tasks, and that personnel will be qualified for the tasks assigned through education training experience and/or demonstrated skill.

Electronic Evidence/Computer Crimes:		CC-25
Controlled Substance:		CS-13
Toxicology:		TX-30
Forensic Science:	(DNA)	DNA-1
	(Forensic Biology)	FB-31
	(Chemistry)	CH-15
	(Trace)	TR-1 & 14
	(Questioned Documents)	QD-19
	(Latent Prints)	LP-16
	(Multimedia)	MMIE-26
	(Firearms/Toolmarks)	CW-I
	(Imprints)	IM-14

5.2.1.1 Each laboratory section maintains SOP's (specified below) which detail the training processes and requirements in the individual sections. These SOP additionally address procedures for retraining, and maintenance of skill and expertise.

Electronic Evidence/Computer Crimes:		CC-25
Controlled Substance:		CS-13
Toxicology:		TX-30
Forensic Science:	(DNA)	DNA-1
	(Forensic Biology)	FB-31
	(Chemistry)	CH-13
	(Trace)	TR-1
	(Questioned Documents)	QD-19
	(Latent Prints)	LP-16
	(Multimedia)	MMIE-26
	(Firearms/Toolmarks)	CW-I-11
	(Imprints)	IM-14

5.2.1.2 Training SOP's (as noted in 5.2.1.1, above) also address presentation of evidence in a legal setting (e.g. deposition, courtroom testimony).

5.2.1.3 Training SOP GL-14 "General Training" address the application of ethical practices in forensic science, a general knowledge of forensic science and criminal and civil law procedures pertinent to the laboratories.

5.2.2 The need for training/retraining of personnel is expected to be identified as a function of the routine quality control/quality assurance program of the laboratory, including case technical reviews, and evaluation of proficiency testing programs, as well as the annual audit program. The specific consideration for training needs, and evaluation of training effectiveness is address in SOP GL-14; "General Training."

5.2.3 SOP GL-14; "General Training" specifies that all employees, and/or contract personnel must demonstrate competence in a given discipline prior to the assumption or performance of casework in that discipline.

5.2.4 SOP GL-15; "Professional Development" specifies that job descriptions for each specific position are maintained by the Quality section. ~~with the Professional Development files~~.

5.2.5 SOP GL-15; "Professional Development" specifies that the documentation of management authorization to perform casework within a discipline, is maintained in each analysts Professional Development file.

Note: Authorization letters may include all techniques within a discipline, or may include only specific sub-disciplines in cases where an analyst is only trained in portions of a discipline. The letters needs to be detailed enough to ensure that an analyst is only authorized in those methods they are competent in, but they need not be so detailed as to list each technique individually within the discipline.

5.2.6 Technical Personnel Qualifications

5.2.6.1 Education

5.2.6.1.1 - .5 All Division of Scientific Services professional personnel possess a baccalaureate or advanced degree or meet other educational requirements specified in their job description per SOP GL-15; "Professional Development." (Note; DNA analysts are required to meet the education requirement of the Quality Assurance Standard for Forensic DNA Testing Laboratories and Quality Assurance Standards for ~~Convicted Offender~~ DNA Databasing Laboratories). Technical support personnel must meet the guidelines set forth in the specific job description.

5.2.6.2 Competency Testing

5.2.6.2.1 SOP GL-14; "General Training" specifies that all employees, and/or contract personnel must demonstrate competence in a given discipline prior to the assumption or performance of casework in that discipline.

5.2.6.2.2 Training SOP's (as noted in 5.2.1.1, above) also address the competency tests required of all personnel who generate laboratory reports, including:

- The examination of sufficient unknown samples to cover the anticipated spectrum of assigned duties.
- A written report to demonstrate the individual's ability to convey results and the significance of the results.
- A written or oral examination, which assess the individual's knowledge of the discipline.

5.2.7 The Laboratory ~~ies~~ maintains appropriate reference books and journals in each discipline, including Internet access.

5.3 Accommodation and Environmental Conditions

5.3.1 DSS Laboratory Facilities have adequate lighting and environmental conditions to facilitate correct performance of test and examination equipment. Monitoring of procedural controls is expected to identify any environmental factor affecting an analytical process.

5.3.2 The Division of Scientific Services (DSS) Laboratory~~ies~~ sections monitor environmental conditions critical to the integrity of the testing results. Laboratory SOP's (as noted below) detail specific parameters monitored, and maintenance of records.

5.3.3 The DSS ~~Laboratories~~ employ measures within the appropriate working areas to prevent cross-contamination. This includes partitions on workbenches and separate rooms for incompatible activities.

5.3.4 Access to all lab areas in the DSS labs is controlled by key and/or card-key systems. These systems restrict the access to essential personnel, as described in SOP GL-3; "Security."

5.3.4.1 The SOP GL-3; "Security" specifies that

a. Access to the operational area of the laboratory is controlled and limited, and visitors (including interns) may not be allowed unrestricted access to the operational areas of the Laboratories.
b. All exterior entrance/exit points have adequate security control.
c. Internal areas requiring limited/controlled access have a lock system

d. Key and proximity card distribution and accountability is documented and distribution limited to individuals designated by the Director or appropriate ~~Laboratory~~ Deputy Director.
e. The laboratory is monitored during vacant hours by an intrusion alarm system.
f. Evidence storage areas are secured to prevent theft or other interference, and are in limited, controlled access locations. Storage conditions in such areas are such as to prevent loss, deterioration and contamination, and to maintain the integrity and identity of the evidence, both before and after examinations have been performed.
g. A fire alarm system, compliant with applicable state and local codes, is maintained by the Laboratory.
h. Background checks are required on all employees, interns and contract employees who will be working in the laboratory.

5.3.5 Each section supervisor is responsible for the housekeeping in their section, as detailed in SOP GL-2; "Safety." All limited access and lab areas are cleaned and maintained by lab staff. All public access and common areas of ~~the~~ DSS ~~laboratories~~ are cleaned by an contracted company. Additional outside vendors are hired when necessary for specific house cleaning needs (e.g. cleaning the indoor firing range).

5.3.6 The DSS Laboratory's safety program is detailed in SOP GL-2; "Safety". The division has a designated safety officer and the safety committee, which oversees all aspects of the safety program.

5.4 Test and Calibration Methods and Method Validation

5.4.1 General

The procedural SOPs for each laboratory in the Division specify the use of appropriate methods and procedures for sampling, handling, transport, preparation, and storage of items to be tested. Each Laboratory as appropriate includes in its procedures, provision of estimation of measurement uncertainty, as well as statistical techniques for analysis of test data.

Each laboratory section has, as appropriate, current and readily available instruction on the use and operation of all relevant equipment. Any significant deviation from accepted procedures must be documented and approved by the section supervisor and the customer.

5.4.2 Selection of Methods

As specified in GL-20; "Review of Requests and Tenders" each laboratory section shall, as a function of the contractual agreement with the customer, specify and use appropriate procedures which meet the needs of the customer and which are appropriate for the examination/testing required.
As specified in GL-19; "Document Control" each laboratory section may only use procedures that have been validated and are approved by the ~~Laboratory~~ Deputy Director for use in the specific laboratory section. Each laboratory section has a specific SOP detailing the method development/validation and documentation process, as noted below:

Electronic Evidence/Computer Crimes:		CC-19,20,21,22,36
Controlled Substance:		CS-10
Toxicology:		TX-10
Forensic Science:	(DNA)	DNA-1
	(Forensic Biology)	FB-6-17
	(Chemistry)	CH-17
	(Trace)	TR-5
	(Questioned Documents)	QD-5
	(Firearms/Toolmarks)	CW-I-15
	(Imprints)	IM-11

As specified in GL-20; "Review of Requests and Tenders", each Laboratory section shall inform a customer when the method proposed by the customer is considered to be inappropriate or out of date.

5.4.2.1 Individual Laboratory section validation procedures (as noted in 5.4.2, above) specify that new laboratory procedures demonstrate reliability and performance characteristic of the analysis, and that appropriate documentation be maintained.

5.4.3. Laboratory-developed and validated methods will only be utilized for casework by properly qualified personnel, as documented per SOP GL-15 "Professional Development".

As specified in SOP GL-19;"Document Control" SOP's reflecting updates, modifications or new procedures will be communicated to appropriate employees by the ~~section Quality~~ QM, AQM, Deputy Director ~~Manager~~ or Supervisor.

5.4.4 If a case requires use of a non-standard method, the customer will be contacted, and the agreement regarding use of such a method will be noted in the case file, as detailed in SOP GL-20; "Review of Tenders and Contracts." All requirements for a validated method as specified by laboratory SOP's must be fulfilled by the non-standard method prior to use.

5.4.5. Validation of Methods

5.4.5.1 Validation is the confirmation by examination and the provision of objective evidence that the particular requirements for a specific intended use are fulfilled and the method is fit for purpose.

5.4.5.2 Each Laboratory section validates all methods prior to use, per section specific SOP's (noted in 5.4.2, above). Documentation of the validation process, including a consideration regarding the method as being "fit for purpose" is specified in these SOP's.

5.4.5.3 Validation methods will include, as appropriate, consideration of range and accuracy, uncertainty, detection limit, linearity, and robustness against external influences, and/or matrix effects. Method validation is driven, at least in part, by a consideration of customer needs.

5.4.5.4 Prior to implementation, validated methods will be verified using in-house documented performance characteristics. See section specific SOPs for validation as noted in section 5.4.2 above.

5.4.6 Estimation of Uncertainty of Measurement: DSS laboratory sections which include the estimation of measurement uncertainty as part of their reporting process, will conform to the most current, published ASCLD/LAB policy on Estimation of Uncertainty of Measurement (See Appendix 11), as specified in individual section SOP's.

5.4.6.1 All DSS ~~Labs~~ laboratory sections shall utilize method/sample-specific procedures to estimate the uncertainty of measurement where applicable. As appropriate, analytical procedures which require consideration of uncertainty address that process on a method-specific basis for each individual section.

5.4.6.2 As addressed in specific analytical SOP's, the process of determination of uncertainty will include an attempt at identifying all significant factors contributing to the uncertainty of a particular measurement, to provide a reasonable estimation of the confidence interval. The particular format for reporting uncertainty (confidence interval) is addressed on a procedure-specific basis, as noted above. A reasonable estimation can be based, for example on previous experience and validation data.

5.4.6.3 As addressed in specific analytical SOP's, the process of determination of uncertainty will include an attempt at identifying all significant factors contributing to the uncertainty of a particular measurement, to provide a reasonable estimation of the confidence interval.

5.4.7 Control of Data

5.4.7.1 Technical reviews of all case calculations and data transfers, and the documentation thereof is detailed in SOP GL-18; "Case Review System."

5.4.7.2 The DSS ~~Laboratories~~ does not utilize user-developed software. Procedures for protection of data, including integrity and confidentiality of data entry, collection, storage transmission, and data processing are detailed in SOP GL-4; "LIMS2 and Justice Trax Application ~~LIMS/Justice Trax~~" This SOP further specifies that computer and related automated equipment are maintained to ensure proper functioning and are provided with the environmental and operating conditions necessary to maintain the integrity of test data.

5.4.7.2.1 SOP CC-8; "Evidence Search Protocol" specifies that the ~~Laboratories'~~ Division of Scientific Services takes measures to prevent unauthorized access to computer systems used for examining digital evidence.

5.5 Equipment

The Laboratory sections are equipped with instrumentation and test equipment required by ~~the~~ each laboratory sections SOP's. All laboratory procedural SOP's require and specify instrumental operational parameters, consistent with the International Standard. All instrument use, regardless of the operational ownership or control of the instrument, must be in accordance with the laboratory SOP.

5.5.2 Individual laboratory section instrument specifications require that equipment and associated software is vender certified/qualified and validation is complete before being placed into service. Calibration procedures and schedules are specified in individual laboratory section SOP's.

5.5.3 Competency with specific equipment, is documented ~~for~~ in each analysts Professional Development file, as detailed in SOP GL-15; "Professional Development". Availability of current SOP's, and instrument and equipment maintenance and operation instruction is detailed in SOP GL-19; "Document Control".

5.5.4 Instrumentation (and related software) and other laboratory equipment used to obtain results for casework will be uniquely identified. This may be through the State of Connecticut Bar Code label, as specified in SOP GL-6; "Purchasing" or other laboratory generated identification as specified in individual laboratory SOPs.

5.5.5 Each Laboratory section maintains a master list of equipment; this list includes the following:

ID of each item of equipment and/or software
Manufacturer's name, description and serial number
Checks that the equipment complies with specs – see vender certification
Current location
Each Laboratory maintains instrument maintenance logs, as detailed in section-specific SOP's.
Maintenance Logs detail the following:

Dates and copies of validation documentation
Maintenance plan and maintenance
Damage, modification or repair to the equipment

5.5.6 The proper handling, use, storage and scheduled maintenance of measuring equipment is specified or referenced in each individual Laboratory procedural SOP in which the use of such equipment is specified.

5.5.7 Any equipment suspected of malfunctioning or of giving incorrect results shall be removed from service and labeled as "out-of-service" as specified in individual laboratory SOP's as noted above (5.5.6), and any possible impact on previous tests will be considered, and appropriate remediation initiated. Demonstration of appropriate performance following any repair, or adjustment is also specified.

5.5.8 All DESPP equipment contains a unique identification number (as a function of inventory control procedures). Instrument-specific records detailing maintenance, repair and functional parameters (including calibration documentation as appropriate) are kept by each analytical instrument, as specified in individual laboratory SOP's.

5.5.9 Any equipment returned to the manufacturer for repair, or that is out of the control of the laboratory for any reason (such as validation services or maintenance performed by a vender in-house) shall be checked/calibrated (as appropriate) before it is returned to service. All repairs must be documented in the instrument maintenance log as specified in individual laboratory section SOP's. The documentation for the check/calibration will include the examiners name, the date, the findings (data if applicable) and a statement that the device is demonstrably fit for purpose. ~~This information is then provided to the section Quality Manager for approval~~. Note in the DNA section ~~approval will be by~~ the DNA Technical Leader or their designee will initial the documents to demonstrate approval.

5.5.10 All instrumental utilization is accompanied by appropriate controls. All instrumental controls and checks, including evaluation criteria, and actions in the event of control or instrument failure are specified in individual laboratory procedural SOP's.

5.5.11 No current instrumentation utilizes correction factors.

5.5.12 Analytical instrumentation is maintained in limited-access facilities. Evaluation of control material during routine test evaluation ensures that no inappropriate adjustment affecting calibration and/or test results has been made.

5.6 Measurement Traceability:

~~All~~ The DSS ~~Laboratories~~ will conform to the most current ASCLD/LAB *Policy on Measurement Traceability* (See appendix 12) as specified in individual section SOP's.

5.6.1 General
All equipment shall be calibrated before being put into service, as specified in individual laboratory section SOP's. Calibration of specific instruments is detailed per individual laboratory section SOP's.

5.6.1.1 Evaluation of instrumental calibration is detailed, (e.g. following instrumental shut down or post-service) on a per-instrument or instrument type (e.g. GCMS) in individual laboratory section SOP's.

5.6.2 Specific Requirements

5.6.2.1 Calibration

5.6.2.1.1 All equipment calibrations shall whenever possible be traceable to the International System of Units (SI) either through the use of suitable standards or the use of ISO or equivalent certified Laboratories or companies, as specified in individual laboratory SOP's.

Each Laboratory shall utilize only measurement standards for calibrations or comparisons which can be linked to relevant primary standards of the SI units of measurement.

When the laboratory utilizes external calibration services, only facilities that can demonstrate competence, measurement capability and traceability will be employed. The calibration certificates issued by these Laboratories shall contain the measurement results, including the measurement uncertainty and/or a statement of compliance with an identified metrological specification.

5.6.2.1.2 If certain calibrations cannot be made in SI units, certified reference materials provided by a competent supplier shall be used to give a reliable physical or chemical characterization as described in individual laboratory section SOP's.

5.6.2.2 Testing

5.6.2.2.1 Each laboratory section is responsible to ensure that testing equipment and protocols are "fit for purpose" (provide an uncertainty level appropriate to the testing required) as per the customer contract, as specified in GL-12 "Evidence Receiving."

5.6.2.2.2 If certain calibrations cannot be made in SI units, certified reference materials provided by a competent supplier shall be used to give a reliable physical or chemical characterization as described in individual laboratory section SOP's

5.6.3 Reference Standards and Reference Materials

5.6.3.1 Reference Standards

All reference standards are calibrated against NIST standards or by a vender, which can provide traceability to NIST or an equivalent. Reference standards are not adjusted or modified.

5.6.3.2 Reference Materials.

All reference materials shall, where possible, be traceable to SI units or to certified reference materials. Internal reference materials shall be produced and checked as far as is technically and economically practicable as detailed in individual laboratory section SOP's.

5.6.3.2.1 Reference collections of data or items/materials maintained for comparison or interpretation purposes are to be fully documented, identified and controlled see appropriate section SOP's.

5.6.3.3 Intermediate Checks

QC checks for the integrity of standards and reference materials are defined, as appropriate for each calibration, in the specific SOP associated with that procedure.

5.6.3.4 Transport and Storage

Procedures for the safe handling, transport, storage and use of reference standards and materials are detailed in section-specific SOP's.

5.7 Sampling

5.7.1 Each DSS Laboratory section defines and describes its sampling protocols in Laboratory-section specific SOP's. Such sampling processes address the factors to be controlled to ensure the validity of the test results.

5.7.2 Individual laboratory section sampling SOP's specify that any deviations from the sampling procedure (plan) required by the customer shall be noted on the appropriate worksheet in the case file.

5.7.3 Each DSS Laboratory section specifies procedures for recording relevant sampling data. Such protocols specify that all information on the sampling procedure (including pertinent diagrams for location of sampling) shall be documented on case worksheet(s).

5.8 Handling of Test and Calibration Items

5.8.1 The DSS ~~Laboratories~~ addresses the overall handling of test materials in SOP GL-13; "General Evidence Handling" and each DSS laboratory section has specific SOP's addressing transportation, receipt, handling, protection, storage, retention, and/or disposal of test items. These SOP's include provisions to protect the integrity of each item and the interests of the lab and the customer. These provisions shall include the collection of reference materials (e.g. Buccal Swabs) from laboratory personnel or visitors (e.g. observers, vendors, or other individuals who may be allowed into laboratory areas).

5.8.1.1 Chain of custody (COC) for all test and sample materials received by the laboratory is documented as detailed in SOP GL-4; "LIMS2 and Justice Trax Application ~~LIMS/Justice Trax~~". This electronic capture of COC information includes each person taking possession of an item of evidence, or the location of that item, the date of receipt or transfer and the description and unique barcode identifier/case number of the item.

5.8.1.1.1 All sub-items (when generated) are tracked in LIMS in the same manner as original evidence items, as per 5.8.1.1 above.

5.8.1.1.2 Evidence accepted by, and stored in the laboratory will be properly sealed when not in the analytical process, as detailed in SOP GL- 12; "Evidence Receiving".

5.8.2 Each DSS Laboratory has a specific system for the identification of test items, as detailed in SOP GL-13; "General Evidence Handling". Each item and, when necessary, sub -item(s) acquire(s) a unique label which remains as a permanently affixed identifier and is used in all aspects of the testing/examination process.

5.8.3 Each DSS Laboratory section requires (as detailed in section-specific SOP's) documentation of any departure of samples or test materials from procedural specification(s). If the departure is of sufficient magnitude as to potentially affect the suitability of the item for testing, the customer will be notified for further instruction, and the information detailed in the case file. Further, if the submission(s) do not conform to the description provided, the customer will be notified, and the case file will be appropriately documented.

5.8.4 Each DSS section Laboratory has a specific SOP requirement for the appropriate storage conditions for samples and test materials. These procedures ensure the proper storage, handling, and preparation of submitted items. Storage facility conditions are monitored and recorded as appropriate.

5.8.4.1 SOP GL-13; "General Evidence Handling" specifies that any evidence not in the process of examination will be maintained in a secured, limited-access storage area.

5.8.4.2 SOP GL-13; "General Evidence Handling" specifies that all unattended evidence (in the process of examination, e.g. assigned to an examiner) shall be stored in a secure area or locked in a personal locker.

5.8.4.2.1 SOP GL-13; "General Evidence Handling" specifies that the process of examination cannot be "open ended," and that there shall be a reasonable end point to the process of analysis, determined on a case-specific basis.

5.8.4.3 SOP GL-13; "General Evidence Handling" specifies that each item of evidence shall be marked with the unique case number and any appropriate further identification (e.g. sub-item number). If the evidence does not lend itself to marking, its proximate container or ID tag shall be marked as noted above.

5.8.4.4 Digital files, photographs, or photographic negatives of images from evidence, such as latent prints and impressions, are treated as evidence, when the evidence itself is not recoverable as specified in individual Laboratory section SOP's

5.8.4.5 The DSS ~~Laboratories have~~ has no current Crime Scene Responsibilities; however, employees may attend crime scenes in an advisory capacity.

5.8.4.6 Operational SOP's for the individual characteristic databases utilized by the ~~Laboratories~~ laboratory sections are as follows:

NIBIN: (Firearms/Tool) Marks FA-IV-8, FA-IV-9, CW-I-1, CW-I-2 and QR FA7
CODIS: (DNA) DNA-10 to DNA-16
AFIS: (Latent Prints) LP-11

5.8.4.6.1 Individual characteristic database samples are treated as reference materials by the DSS ~~Laboratories~~.

5.8.4.6.1a Individual characteristic database samples for the DSS ~~Laboratories~~ are not treated as evidence.

5.8.4.6.1b Individual characteristic database samples for the DSS ~~Laboratories~~ shall meet criteria as specified in 5.8.4.6.2 to 5.8.4.6.4. below.

5.8.4.6.2 Laboratory section specific analytical SOP's (as noted in 5.8.4.6, above) specify that samples comprising individual characteristic databases will be uniquely identified.

5.8.4.6.3 Laboratory section specific analytical SOP's (as noted in 5.8.4.6, above) specify that samples comprising individual characteristic databases will be protected from loss, cross transfer, contamination and/or deleterious change.

5.8.4.6.4 Laboratory section specific analytical SOP's (as noted in 5.8.4.6, above) specify that access to samples comprising individual characteristic databases will be restricted to those persons authorized by the specific laboratory director.

Specific to the Firearms section: Firearms that make up the reference collection cannot be signed out of the unit to any outside agency including to State Police personnel without the written permission from the Director. If at any time an item from the Firearms Reference Collection must be removed from the DSS building, written authorization must be obtained from the Director. The make, model and serial number of the item(s) must be included as part of the authorization.

5.9 Assuring the Quality of Test Results

5.9.1 Specific QC procedures are maintained in each laboratory for monitoring the validity of tests and calibrations procedures. These procedures further specify which data will be recorded and tracked for the purpose of trend evaluation, and the statistical evaluations to which the data may be subjected, and the monitoring plan. The QC procedures detail the basis for evaluation (e.g. use of CRM or secondary reference materials; proficiency-testing programs, replicate tests or calibrations, retesting retained items and/or correlation of results).

5.9.1.1 Documentation in the case record of the use and performance of appropriate controls and standards is specified in all procedural SOP's in each of the Laboratory Sections.

5.9.2 Section-specific QC procedures detail the analysis process for QC data, and include the appropriate actions to be taken in the event of failed parameters (including action to be taken to correct the problem and to prevent an incorrect result from being reported).

5.9.3 ~~Each~~ The DSS ~~Laboratory~~ participates in a program of external proficiency testing, as specified in SOP GL-16; "Proficiency Testing".

5.9.3.1 SOP GL-16; "Proficiency Testing" specifies that the laboratory will utilize it's own approved and documented test procedures for the analysis of proficiency testing material, including both normal technical and administrative review practices.

5.9.3.2 SOP GL-16; "Proficiency Testing" Specifies that all DSS laboratory sections ~~Laboratories~~ use a proficiency testing program which complies with the ASCLD/LAB Proficiency Review Program.

5.9.3.3 SOP GL-16; "Proficiency Testing" Specifies that each examiner shall successfully complete one external or internal proficiency test per calendar year.

5.9.3.3.1 SOP GL-16; "Proficiency Testing" specifies that, where applicable, all DNA analysts shall comply with proficiency test requirements of the Quality Assurance Standards for Forensic DNA Testing Laboratories and Quality Assurance Standards for ~~Convicted Offender~~ DNA Data basing Laboratories. Further specified is that all DNA proficiency tests shall be reviewed by the DNA technical leader. The laboratory Quality Section ~~manager~~ shall maintain proficiency test case files and answers.

5.9.3.3.2 Within each 5 year ASCLD/LAB accreditation cycle, each accredited discipline will be proficiency tested not less than once per year, as specified in SOP GL-16; "Proficiency Testing."

5.9.3.4 SOP GL-16; "Proficiency Testing" specifies that all DSS laboratory sections ~~Laboratories~~ shall annually participate in at least one proficiency test for each discipline (internal or external proficiency test for each category of testing ~~sub-discipline~~) of forensic science in which it provides services. ASCLD/LAB approved test providers shall be used where available. For discipline(s) /categories of testing where there is not an ASCLD/LAB approved test provider available, the ~~Laboratories~~ laboratory quality section shall locate and use a source of an external test for the discipline(s). Internal Proficiency tests may be developed by the Quality section for categories of testing where an external provider cannot be identified.

5.9.3.5 SOP GL-16; "Proficiency Testing" specifies that the Quality Section ~~each DSS laboratory~~ shall maintain records of proficiency testing, including as a minimum:

Test set identifier
Sample source
Analyst
Analysis and completion dates

All analytical and associated data
Findings
Any discrepancies noted
Documentation of review and feedback for analyst
Start and end date of analysis as specified in SOP GL-11 (section D.6)
Corrective and/or remedial action (if appropriate)

Proficiency case files will be maintained by the Quality Section.

5.9.3.6 SOP GL-16; "Proficiency Testing" specifies that all DSS Laboratories shall retain proficiency test records for a period of ten years.

5.9.4 The technical review of examination documentation and reports is detailed in SOP GL-18; "Case Review System."

5.9.4.1 SOP GL-18; "Case Review System" specifies that technical reviews shall include appropriate review to assure:

- Conformance with proper technical policies and procedures
- Accuracy of test reports and that the data supports the conclusions on the reports
- That where performed, associations are properly qualified
- That the test report contains all the required information.

5.9.4.2 SOP GL-18; "Case Review System" specifies that all technical reviews shall be conducted by individuals having expertise gained through knowledge, training, and experience in the discipline being reviewed.

5.9.4.3 Technical reviews of examination data or test report shall not be conducted by the author or co-authors of report or examination data, as specified in SOP GL-18; "Case Review System."

5.9.5 Administrative review of case files prior to report release is detailed in SOP GL-18; "Case Review System".

5.9.5.1 Administrative reviews will include at a minimum:

- A review of the test report for spelling and grammatical errors
- A review of all administrative and examination documentation records to ensure that the records contain the laboratory case number.
- A review of the test report to ensure that all key information has been included in the report.

It is recognized that individual sections may combine the responsibilities for the Technical and Administrative review based on the sections personnel requirements. Such combined functionality is detailed in individual section SOP's.

5.9.6 SOP GL-17; "Court Monitoring" specifies that the ~~all~~ DSS ~~Laboratories~~ shall have a policy whereby the testimony of all testifying personnel is monitored on an annual basis, including feedback and remedial action as appropriate.

5.9.7 SOP GL-17; "Court Monitoring" specifies that all court-monitoring records shall be retained for 10 years. Court monitoring records are maintained by the Quality Section.

5.10 Reporting the Results

5.10.1 General

Each DSS laboratory section has an SOP detailing that reporting of results from that laboratory shall be reported accurately, clearly, unambiguously and objectively, in accordance with test-specific instructions.

Each DSS laboratory section reporting SOP specifies that case files will contain all relevant information required by ASCLD/LAB International and ISO/IEC 17025 and the FBI DNA QAS. Further, that reports shall include all information requested by the customer, and necessary for the interpretation of the test results, including methodology employed. Also specified is that simplified reporting may be used in the case of specific agreement with customers, as long as the case file contains all pertinent and relevant information, as required by ASLCD/LAB International and ISO/IEC 17025.

5.10.1.1 As detailed in SOP GL-11 "Control of Records"; DSS ~~Laboratories~~ laboratory sections will generate test reports on all case materials tested in the Laboratory as detailed in individual section SOP's with the following possible exceptions:

- Evidence which is designated by the submitting agency or court to be no longer required. In such cases the evidence will be returned to the submitting agency and the reason for not analyzing the case will be documented in the case file.

- Evidence received by the laboratory that prior to the start of analysis is determined to be unacceptable for analysis. In such cases, the submitting agency must be contacted and the reason must be documented in the case file.

5.10.2 Each DSS laboratory section has an SOP detailing that reports will be issued on all cases analyzed by the DSS Laboratories. The reports will accurately and clearly represent the results obtained through the analysis performed. The reports will include the following (the reason for any deviations must be documented in the case file):

Title
Name and address of the laboratory
Name and of the submitting agency

Laboratory case number
Methods use in analysis of the case materials
Evidence description
Date of case receipt to laboratory
Items analyzed (with a reference to a sampling plan if applicable) with a statement to the effect that the results only relate to the items tested
Results with appropriate units of measure if applicable
Name and title of the analyst(s) and co-signer (technical reviewer)

5.10.3 Test Reports

5.10.3.1 Where applicable, Laboratory reporting SOP's specify that reports shall include:

Deviations from standard procedures
Statement of measurement uncertainty as appropriate
Opinions and interpretations as appropriate
Any other information that may be required by the Customer or State Regulations

5.10.3.2 Individual laboratory reporting SOP's specify that case files will include (when necessary for the interpretation of results):

date of sampling
unambiguous ID of the item, material or substance tested or sampled
location of sampling, including any diagrams, sketches or photographs
reference to the sampling plan used
details of environmental conditions (if potentially affecting test result interpretation)
details of sampling method(s), and/or technique(s)

5.10.3.3 SOP GL-11; "Control of Records" details the procedures for controlling the release of case report information.

5.10.3.4 SOP GL-18; "Case Review System" specifies that any laboratory personnel who issue findings, write reports and/or provide testimony based on another person's work shall complete and document the review of all relevant pages in the case record.

5.10.3.5 Section-specific SOP's for ~~Laboratories~~ laboratory sections reporting "associations" and/or the significance of associations specify that the Laboratory shall identify and qualify the significance of all associations in the report.

5.10.3.6 Section-specific SOP's for laboratory section ~~the laboratories~~ detail that when comparative examinations result in the elimination of an individual or object the report shall clearly communicate the elimination.

5.10.3.7 Section-specific laboratory SOP's for reporting specify that reasons for an "inconclusive" test finding or result shall be documented in the report.

5.10.4 The DSS ~~Laboratories~~ does not issue Calibration Certificates.

5.10.5 Section-specific laboratory SOP's for reporting specify that when opinions or interpretations are included in case finding, the basis of the interpretation or opinion shall be clearly designated as such in the case report, and the basis of such opinions documented in the case file.

5.10.6 No testing in the DSS ~~Laboratories~~ is performed by, or assigned to subcontractors.

5.10.7 SOP GL-11; "Control of Records" specifies that any transmission of test results by means other than a written report will be performed in compliance with 5.4.7 above.

5.10.8 All laboratory report formats, presented on ~~Laboratory~~ DSS letterhead (or equivalent as formatted in LIMS) , and containing the analyst(s) signature, are designed to accommodate each type of test, and to minimize the possibility of misunderstanding or misuse.

5.10.9. If necessary, all DSS Laboratories shall issue amended reports in the same format as the original:

- Reports, which are amended to add additional information due to additional work being performed on the case, will be clearly marked as "Supplemental Reports". The original report will be left in the case file.
- Reports which have been issued but that require a correction will be clearly marked as "Revised Reports". Revised reports will be issued in cases where required information was omitted from the original report, when the case demographic information is corrected (such as a submitting agency case number), information was incorrect and the correct information is added. The original report will be left in the case file marked so that the changes made are clear.

Such Supplemental/Revised Reports will be issued in compliance with individual Laboratory section reporting SOP's.

Appendix 1:

TYPE AND EXTENT OF EXAMINATIONS

Appendix 2:

No Appendix 2

Appendix 3:

Quality Manual Appendix/QM APPENDIX 3.doc

No Appendix 3

Appendix 4:

CONNECTICUT STATE STATUTE 29-07b.

Appendix 5, 6 & 7:

MANAGERIAL JOB DESCRIPTIONS

Appendix 8:

Job Descriptions

Appendix: 9

TECHNICAL RESPONSIBILITY DESIGNATION

Appendix 10:

ASCLD/LAB *Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists.*

Appendix 11:

ASCLD/LAB *Policy on Estimation of Uncertainty of Measurement*

Appendix 12:

ASCLD/LAB *Policy on Measurement Traceability*

Appendix 13:

Contingency Plan for Refilling the DNA Technical Leader Position