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## 6 Resource Requirements

### 6.1 General

The Michigan State Police (MSP) Forensic Science Division has available the personnel, facilities, equipment, systems and support services necessary to manage and perform forensic examinations as detailed in each laboratory's scope of accreditation document.

### 6.2 Personnel

#### 6.2.1

The FSD uses qualified personnel who are employed by, or under contract to, the Forensic Science Division that have received orientation per LOM 6.0 Onboarding the New Employee. Technical management will ensure that employees are competent ([LOM 5.2 Training and Qualification of Personnel](#)), supervised, and work in accordance with the FSD's quality management system including maintaining competency and acting in an impartial manner.

#### 6.2.2

FSD management shall ensure that only qualified technical personnel conduct forensic examinations, confirm identifications and associations, review results, issue laboratory reports and perform tasks that may create items used for testing ([LOM 5.2 Training and Qualifications of Personnel](#)). Personnel who are undergoing training shall be appropriately supervised.

##### 6.2.2.1

Analysts working in the Controlled Substances discipline shall possess a baccalaureate or an advanced degree in a chemical, physical, or biological science or forensic science.

Analysts working in the Trace Evidence discipline shall possess a baccalaureate or an advanced degree in a chemical, physical, or biological science or forensic science.

Analysts working in the Fire Debris and Explosives discipline shall possess a baccalaureate or an advanced degree in a chemical, physical, or biological science or forensic science

Analysts working in the Footwear and Tire Track discipline shall meet the educational requirement(s) specified in their primary discipline's position description (i.e. Questioned Documents).

Analysts working in the Toxicology discipline shall possess a baccalaureate or an advanced degree in a chemical, physical, or biological science or forensic science.

Analysts working in the Biology discipline shall possess a baccalaureate or an advanced degree in a chemical, physical, or biological science or forensic science and, if performing DNA analysis and where applicable, shall meet the education requirements of the FBI Quality Assurance Standards for Forensic DNA Testing.

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Analysts working in the Latent Prints, Firearms/Toolmarks, Questioned Documents, Crime Scene and Bloodstain Pattern Analysis disciplines shall meet the educational requirement(s) specified in their respective position descriptions.

Technicians shall meet the educational requirement(s) specified in their respective position descriptions.

### **6.2.2.2**

Each discipline within the FSD shall have a documented training program that is used to develop the individual employee's knowledge, skills, and experiences required to become qualified to perform forensic examinations in any given category of testing ([LOM 5.2- Training and Qualification of Personnel](#)). Additional procedures shall be implemented to address the maintenance and continued development of skills for existing employees ([LOM 5.1 - Personnel Development Program](#), [LOM 2.4 Proficiency Testing and Discipline-specific Training Manuals](#)). Training programs shall include instruction on the general knowledge of forensic science, provisions for retraining, and criteria for acceptable performance while in the training program. Where applicable, training programs shall also include training in the presentation of evidence in court. Training shall include the application of ethical practices in forensic sciences and applicable criminal and civil law and procedures.

An analyst/examiner must receive retraining if the integrity of technical results of their casework analysis or proficiency tests are determined to be of concern by the Technical Leader, in consultation with the Quality Assurance Manager. The corrective action process shall be initiated and handled in accordance with the corrective actions policy ([LOM 2.11 - Discrepancies and Corrective Action](#)). Depending on the level of error or concern, the retraining may be handled within the FSD or completed under the Department's Retraining Order. The completion of any retraining shall include the successful completion of a competency test and formal approval by the appropriate Technical Leader and Quality Assurance Manager.

Each laboratory shall maintain or provide access to resources such as relevant books, journals, online publications and other literature dealing with each discipline.

### **6.2.3**

FSD management shall ensure that the personnel have the competence to perform laboratory activities for which they are responsible ([LOM 2.4 Proficiency Testing](#)) and to evaluate the significance of deviations ([LOM 2.11 - Discrepancies and Corrective Action](#)).

Laboratory equipment shall be operated by qualified personnel (LOM 5 Training). Updated instructions for the use and maintenance of equipment shall be maintained ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)). The manufacturer's manuals for equipment shall also be available to the appropriate personnel.

#### **6.2.3.1**

All personnel who influence the results of testing activities must satisfactorily complete a competency test in each applicable discipline prior to assuming casework responsibilities.

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For any laboratory personnel whose job responsibility includes performing testing, performing specific tasks that create items used in testing and authoring a report, a competency test shall be administered ([LOM 5.2 Training and Qualifications of Personnel](#)).

Laboratory personnel shall achieve the intended results, be deemed competent by the respective Technical Leader and authorized by a Laboratory Director prior to performing testing, creating items or authoring reports. The competency shall include, at a minimum:

- Practical examination of sufficient samples to cover the anticipated spectrum of assigned duties and evaluate the individual's ability to perform proper testing methods;
- A written report to demonstrate the individual's ability to properly convey results and/or conclusions and the significance of those results/conclusions; and
- A written or oral examination to assess the individual's knowledge of the discipline or task being performed.
- Testimony

All analysts working in any sub-discipline must satisfactorily complete competency testing prior to assuming independent casework responsibility in that sub-discipline(s).

If an analyst conducts work at a laboratory other than their own where different instrumentation and/or analytical techniques are to be utilized by that analyst, they shall be competency tested in that instrumentation and/or analytical technique prior to performing the work. Additional authorization is also required ([LOM 5.2.2 Training Programs](#)).

#### **6.2.3.2**

For any laboratory personnel whose job responsibility includes reviewing and authorizing results, providing an opinion or an interpretation, performing casework or providing technical reviews of test results or testimony shall meet the competency requirements as outlined in QM 6.2.3.1.

#### **6.2.4**

Current job descriptions that include duties, responsibilities and authorities for all FSD personnel are maintained within the FSD Document Management System linked to their personal profile.

#### **6.2.5**

The FSD shall have procedures and retain records for:

- a) Determining the competence requirements (Discipline specific procedure manuals);
- b) Selection of personnel. The FSD follows the State of Michigan and Department of State Police recruiting and selection methods when selecting personnel;
- c) Training of personnel. [LOM 5.2 Training and Qualifications](#) of personnel and Discipline specific procedure manuals establish objectives for the continuing education and training of all personnel. The training program shall be relevant to the present and anticipated services provided by the FSD. [LOM 5.2.2 Oversight](#) requires each employee to maintain records of their training.
- d) Supervision of personnel is addressed in [LOM 1.4 Position Descriptions](#), [LOM 1.5 Employee Performance Management](#), [LOM 1.6 Employee Reviews](#), [LOM 1.11 Personnel Issues](#), and [LOM 5.1 Personnel Development Program](#);

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- e) FSD management authorizes qualified personnel to perform forensic examinations. Records shall be maintained of an employee's qualifications to include education, professional experience, competency test results, and proficiency test results, as outlined in [LOM 5.2 - Training and Qualification of Personnel](#). These requirements apply to contract employees;
- f) The effectiveness of the training program shall be evaluated through annual employee performance appraisals ([LOM 1.6 Employee Reviews](#)), annual audits ([LOM 2.3 Laboratory Audits](#)), proficiency testing programs ([LOM 2.4 Proficiency Testing](#)) and corrective actions ([LOM 2.11 Discrepancies and Corrective Actions](#)).

### 6.2.5.1

The MSP relies upon qualified and competent forensic managers to develop, maintain, and operate an efficient, reliable forensic laboratory.

#### **Managerial Competence**

Laboratory managers should display competence in direction of such activities as long range planning, management of change, group decision making, and sound fiscal practices. The role(s) and responsibilities of laboratory members must be clearly defined.

#### **Integrity**

Laboratory managers must be honest and truthful with their peers, supervisors and subordinates. They must also be trustworthy and honest when representing their laboratories to outside organizations.

#### **Quality**

Laboratory managers are responsible for implementing quality assurance procedures which effectively monitor and verify the quality of the work product of their laboratories.

#### **Efficiency**

Laboratory managers should ensure that laboratory services are provided in a manner which maximizes organizational efficiency and ensures an economical expenditure of resources and personnel.

#### **Productivity**

Laboratory managers should establish reasonable goals for the production of casework in a timely fashion. Highest priority should be given to cases which have a potentially productive outcome and which could, if successfully concluded, have an effective impact on the enforcement or adjudication process.

#### **Meeting Organizational Expectations**

Laboratory managers must implement and enforce the policies and rules of the MSP and the Forensic Science Division. They should establish internal procedures designed to meet the needs of these organizations.

#### **Health and Safety**

Laboratory managers are responsible for planning and maintaining systems that reasonably assure safety in the laboratory. Such systems should include mechanisms for input by members of the laboratory, maintenance of records of injuries and routine safety inspections.

#### **Security**

Laboratory managers are responsible for planning and maintaining the security of the laboratory. Security measures should include control of access both during and after normal business hours.

#### **Management Information Systems**

Laboratory managers are responsible for developing management information systems. These systems should provide information that assists managers and the parent organization in decision making processes.

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Laboratory managers understand that the quality of the work generated by a laboratory is directly related to the performance of the staff. To that end the laboratory manager has important responsibilities to obtain the best performance from the laboratory's employees.

**Qualifications**

Laboratory managers must hire employees of sufficient academic qualifications or experience to provide them with the fundamental scientific principles for work in a forensic laboratory. The laboratory manager must be assured that employees are honest, forthright and ethical in their personal and professional life.

**Training**

Laboratory managers are obligated to provide training in the principles of forensic science. Training must include handling and preserving the integrity of physical evidence. Before casework is done, specific training within that functional area shall be provided. Laboratory managers must be assured that the employee fully understands the principles, applications and limitations of methods, procedures and equipment they use before beginning case work.

**Maintaining Employees' Competency**

Laboratory managers must monitor the skills of employees on a continuing basis through the use of proficiency testing, report review and evaluation of testimony.

**Staff Development**

Laboratory managers should foster the development of the staff for greater job responsibility by supporting internal and external training, providing sufficient library resources to permit employees to keep abreast of changing and emerging trends in forensic science, and encouraging them to do so.

**Environment**

Laboratory managers are obligated to provide a safe and functional work environment with adequate space to support all the work activities of the employee. Facilities must be adequate so that evidence under the laboratory's control is protected from contamination, tampering or theft.

**Communication**

Laboratory managers should take steps to ensure that the employees understand and support the objectives and values of the laboratory. Pathways of communication should exist within the organization so that the ideas of the employees are considered when policies and procedures of the laboratory are developed or revised. Communication should include staff meetings as well as written and oral dialogue.

**Supervision**

Laboratory managers must provide staff with adequate supervisory review to ensure the quality of the work product. Supervisors must be held accountable for the performance of their staff and the enforcement of clear and enforceable organizational and ethical standards. Employees should be held to realistic performance goals which take into account reasonable workload standards. Supervisors should ensure that employees are not unduly pressured to perform substandard work through case load pressure or unnecessary outside influence. The laboratory should have in place a performance evaluation process.

**Fiscal**

Laboratory managers should strive to provide adequate budgetary support. Laboratory managers should provide employees with appropriate, safe, well maintained and calibrated equipment to permit them to perform their job functions at maximum efficiency.

Laboratory managers hold a unique role in the balance of scientific principles, requirements of the criminal justice system and the effects on the lives of individuals. The decisions and judgments that are made in the laboratory must fairly represent all interests with which they have been entrusted. Users of

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forensic laboratory services must rely on the reputation of the laboratory, the abilities of its analysts and the standards of the profession.

**Conflict of Interest**

Laboratory managers and employees of forensic laboratories must avoid any activity, interest or association that interferes or appears to interfere with their independent exercise of professional judgment.

**Response to Public Needs**

Forensic laboratories should be responsive to public input and consider the impact of actions and case priorities on the public.

**Professional Staffing**

Forensic laboratories must hire and retain qualified personnel who have the integrity necessary to the practice of forensic science. Verification of academic, work experience and professional association credentials is essential.

**Recommendations and References**

Professional recommendations of laboratories and/or analysts should be given only when there is knowledge and an endorsement of the quality of the work and the competence of the laboratory/analyst. Referrals of clients to other professional colleagues carry a lesser degree of endorsement and are appropriate when a laboratory is unable to perform the work requested.

**Legal Compliance**

Laboratory managers shall establish operational procedures in order to meet constitutional and statutory requirements as well as principles of sound scientific practice.

**Fiscal Responsibility**

Public laboratories should be managed to minimize waste and promote cost effectiveness. Strict inventory controls and equipment maintenance schedules should be followed.

**Accountability**

Laboratory managers must be accountable for decisions and actions. These decisions and actions should be supported by appropriate documentation and be open to legitimate scrutiny.

**Disclosure and Discovery**

Laboratory records must be open for reasonable access when legitimate requests are made by officers of the court. When release of information is authorized by management, all employees must avoid misrepresentations and/or obstructions.

**Work Quality**

A quality assurance program must be established. Laboratory managers and supervisors must accept responsibility for evidence integrity and security; validated, reliable methods; casework documentation and reporting; case review; testimony monitoring; and proficiency testing.

**Responsibility to the Profession**

Laboratory managers face the challenge of promoting professionalism through the objective assessment of individual ability and overall work quality in forensic sciences. Another challenge is dissemination of information in a profession where change is the norm.

**Accreditation**

ANAB (ANSI National Accreditation Board) provides managers with objective standards by which the quality of work produced in forensic laboratories can be judged. Participation in such a program is important to demonstrate to the public and to users of laboratory services the laboratory's concern for and commitment to quality.

**Peer Certification**

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Laboratory managers should support peer certification programs which promote professionalism and provide objective standards that help judge the quality of an employee's work. Meaningful information on strengths and weaknesses of an individual, based on an impartial examination and other factors considered to be important by peers, will add to an employee's abilities and confidence. This results in a more complete professional.

**Peer Organizations**

Laboratory managers should participate in professional organizations. They should encourage employee participation in professional societies and technical working groups which promote the timely exchange of information among peers. These societies prove their worth to forensic science, benefiting both the employee and employer, through basic training as well as continuing education opportunities. Personal contacts with other agencies and laboratories with similar interests are also beneficial for professional growth.

**Research**

When resources permit, laboratory managers should support research in forensic laboratories. Research and thorough, systematic study of special problems are needed to help advance the frontiers of applied science. Interaction and cooperation with college and university faculty and students can be extremely beneficial to forensic science. These researchers also gain satisfaction knowing their work can tremendously impact the effectiveness of a forensic laboratory.

**Ethics**

Professional ethics provide the basis for the examination of evidence and the reporting of analytical results by blending the scientific principles and the statutory requirements into guidelines for professional behavior. Laboratory managers must strive to ensure that forensic science is conducted in accordance with sound scientific principles and within the framework of the statutory requirements to which forensic professionals are responsible.

**6.2.6**

Authorization for personnel to perform specific laboratory activities is documented on the Forensic Science Division document management system. The Trained to Competency and Authorization workflow documents the authorization to conduct casework exams (analysis of results, statements of conformity, opinions and interpretations), issue results (reports, reviews and authorization of results) and conduct activities that support casework.

The Forensic Science Division maintains a policy and procedure for development, modification, verification and validation of methods ([LOM 2.9 Validation and Verification](#)). Laboratory staff members deemed competent and authorized to conduct testing activities in a discipline or sub-discipline of testing shall be considered competent and authorized to conduct development, modification, verification and validation of methods activities.

**6.3 Facilities and Environmental Conditions**

**6.3.1**

Laboratories shall be such as to permit the correct performance of forensic examinations and shall ensure that the environmental conditions do not adversely affect the quality required of any measurement ([LOM 1.7 Facilities and Security](#)).

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### 6.3.2

All examinations require normal laboratory environmental conditions unless noted in a discipline-specific procedures manual. Any environmental conditions that can affect the results of examinations are documented in the discipline-specific procedures manuals.

### 6.3.3

If environmental conditions affect the quality of an examination, those conditions shall be monitored, controlled, and recorded as required by the discipline-specific procedures manual. Examinations shall be stopped when the environmental conditions jeopardize the results.

### 6.3.4

The FSD has established policies regarding controlled access to operational areas, security controls, restricted access to specialized internal and evidence storage areas, and the accountability of keys and access codes ([LOM 1.7 Facilities and Security](#)). Access to evidence storage areas shall be limited and controlled to prevent theft to, or interference of, evidence. At a minimum, all exterior doorways to the laboratory facility shall be controlled to prevent access by unauthorized personnel. Besides exterior door control, the entire exterior perimeter of the laboratory shall inhibit unauthorized access. Each laboratory facility will be monitored during vacant hours by an intrusion alarm. Storage conditions shall be such as to prevent loss, deterioration, and contamination and to maintain the integrity and identity of the evidence ([LOM 1.7 Facilities and Security](#)). Building security is reviewed annually as part of the internal auditing process. Each laboratory location within the Forensic Science Division may have local laboratory policies that supplement the overall laboratory security policies.

Personnel shall maintain effective separation between incompatible activities to prevent cross-contamination ([LOM 1.7 Facilities and Security](#) and discipline-specific procedure manuals, if applicable). Laboratory space utilized for testing activities are evaluated during the annual auditing process.

Measures shall be taken to ensure good housekeeping in the laboratories as outlined in the FSD Health and Safety Manual. Discipline specific procedures manuals shall outline special housekeeping procedures when necessary to ensure the quality of examinations. Discipline-specific procedure manuals are reviewed at least annually.

#### 6.3.4.1

Access to and use of all examination areas in the laboratories is controlled and limited ([LOM 1.7 Facilities and Security](#)). Each laboratory location within the Forensic Science Division may have local laboratory policies that supplement the overall laboratory security policies.

### 6.3.5

When FSD personnel conduct laboratory activities at facilities and/or locations outside of our control (e.g. Crime Scene Response), the requirements related to facilities and environmental conditions shall be met. If environmental conditions are outside of the specified conditions required to obtain reliable results, the tests shall not be conducted. Whenever possible, the evidence should be collected and delivered to the laboratory for testing.

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## 6.4 Equipment

### 6.4.1

Laboratories are furnished with, or have access to, all items needed for the correct performance of forensic examinations that can influence the results. These items include measuring instruments, software, measurement standards, reference materials, reference data, reagents, consumables and auxiliary apparatuses that are necessary to conduct testing activities outlined in the discipline specific procedure manuals.

### 6.4.2

In those cases where an FSD laboratory needs to use equipment that has been outside its permanent control, it shall ensure that the equipment requirements of ISO/IEC 17025:2017, ANAB AR 3125 and the management system are met.

### 6.4.3

Procedures for the handling, storage, use, and planned maintenance of equipment are in [LOM 2.5 Standards, Control and Reagents](#), [LOM 2.10 Control of Materials and Supplies](#), [LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#), discipline-specific procedure manuals or on the [FSDApps](#) portal. Prior to its return to service, any instrument that goes outside the control of the Laboratory must have calibration procedures or performance checks satisfactorily completed by the appropriate person.

Large, stationary equipment that is not meant to be regularly moved shall be transported or stored in a manner that is safe for personnel and minimizes the potential for damage or contamination of the equipment. Equipment that has been moved should be inspected for obvious damage and appropriate actions taken if any damage is noted.

In the event FSD laboratories utilize portable equipment for analytical testing or sampling outside the permanent laboratories, discipline specific procedure manuals will outline the necessary steps to ensure they function properly and operate in a manner that prevents contamination and deterioration of evidence.

Laboratory equipment shall be operated by qualified personnel LOM - 5 Training.

#### 6.4.3.1

Prepared reagents shall be labeled with, at a minimum, the identity of the reagent and the date of preparation or lot number. Records maintained shall identify the preparer of the reagent, the date of preparation and/or testing, who tested it, the components used in preparation and that it worked as expected ([LOM-2.5 Standards, Controls and Reagents](#)).

#### 6.4.3.2

Reference collections of data or materials which are maintained for identification, comparison, or interpretation purposes shall have each entry in the collection documented, uniquely identified and handled properly to protect the data or material characteristic(s) of interest. To protect the data or material characteristic(s), discipline-specific procedure manuals shall address their handling, transport, storage and use.

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#### **6.4.4.**

Before being placed into service, equipment and software shall be calibrated or checked to establish that it meets the laboratory's specification requirements as defined in the discipline specific procedure manuals and complies with the relevant standard specifications. Equipment shall also be calibrated and/or checked before use in accordance with [LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#).

#### **6.4.5**

Equipment and its software used for testing shall be capable of achieving the measurement accuracy and/or measurement uncertainty required to provide a valid result.

#### **6.4.6**

Laboratories shall ensure that equipment and instrumentation having a significant effect on the accuracy or validity of the reported results are calibrated prior to being placed into service ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)). Calibration programs shall be established for key quantities or values of the instrument where these properties have a significant effect on the results.

#### **6.4.7**

Discipline-specific procedure manuals shall detail the calibration program specific to measuring equipment that contribute to the measurement accuracy, measurement uncertainty, validity of results or metrological traceability. The Quality Assurance Manual, Laboratory Operations Manual and discipline-specific procedure manuals are reviewed annually, and adjustments shall be made in order to maintain confidence in the status of equipment calibration.

##### **6.4.7.1**

The discipline-specific procedure manuals shall list the equipment requiring calibration, specifications for the calibration laboratory, specified requirements for the calibration, and the interval of calibration.

#### **6.4.8**

Laboratory instrumentation requiring calibration, reagents and certified reference materials shall be labeled or otherwise identified to indicate the status (calibration, expiration, quality control etc.) ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)) to allow the user of the equipment, reagent or certified reference material to readily identify the status of calibration or period of validity.

#### **6.4.9**

If any instrument or piece of equipment that is malfunctioning or the quality of the data is deemed questionable, it will be removed from service until it is repaired in accordance with the [LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#). The status of the instrument or equipment shall be readily communicated to prevent its use.

Laboratories shall determine the effect of the malfunction and its effect on previous test results, if any, and implement the proper corrective action steps, in accordance with [LOM 2.11 Discrepancies and Corrective Actions](#).

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#### **6.4.10**

When necessary, performance checks will be carried out on calibrated equipment according to the appropriate discipline-specific procedure.

Procedures to check function and/or calibration of equipment and instrumentation shall be established within discipline specific procedures manuals depending on the requirements of the testing or analytical work being done.

It will normally be necessary to check instrument calibration and/or function after any shutdown, whether deliberate or otherwise, and following service or other substantial maintenance or other events specified within the discipline specific procedures manuals. In general, instrument calibration or function verification check intervals shall not be less stringent than manufacturers' recommendations ([LOM 2.9 Validation and Verification](#)).

If required by a discipline specific procedure, checks on reference, primary, or working standards as well as reference materials to maintain confidence in their calibration status shall be performed.

#### **6.4.11**

Where instrument calibrations or performance checks produce a set of correction factors, the correction factors are made available to appropriate personnel through discipline specific procedure manual changes or through other documented means of communication.

#### **6.4.12**

Discipline specific procedure manuals shall include practicable measures such that instrumentation used for forensic examinations, including both hardware and software, are safeguarded from adjustments which would invalidate the test results ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)). These safeguards may include periodic checks of software and hardware against a known standard with an intended result.

#### **6.4.13**

When practicable, laboratory instruments, equipment, and their associated software used for forensic examinations shall be uniquely identified ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)).

Laboratories shall maintain records of each instrument that influences laboratory activities and its associated software used for forensic examinations according to the [LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#).

### **6.5 Metrological Traceability**

#### **6.5.1**

The Michigan State Police Forensic Science Division (FSD) is not a calibration laboratory. The FSD uses external calibration services that can demonstrate competence, measurement capability and traceability. The approved vendors of calibration services can be found on the FSD Document Management Site

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using the Contractors, Subcontractors and Vendors workflow.

Discipline specific procedure manuals provide details of the metrological traceability procedures specific to the testing provided that include an unbroken chain of calibrations that may contribute to the measurement uncertainty and are linked back to a reference.

### 6.5.1.1

If available, suppliers of external calibration services for measuring equipment and/or reference standards, and certified reference materials used to establish or maintain metrological traceability shall be either:

- a) A National Metrology Institute that is a signatory to the BIPMI-CIPM Mutual Recognition Arrangement with the calibration of measuring equipment and/or reference standard to be performed or the certified reference material listed to be purchased in Appendix C of the BIPM key comparison database (KCDB)<sup>2</sup>; or
- b) A service supplier accredited to ISO/IEC 17025 by an accrediting body that is a signatory to the ILAC Mutual Recognition Arrangement, with the calibration of measuring equipment and/or reference standard to be performed listed in a scope of accreditation; or
- c) An accredited reference material producer that is accredited to ISO 17034 by an accrediting body that is a signatory in an ILAC recognized regional accreditation cooperation or the ILAC Mutual Recognition Arrangement, with a scope of accreditation covering the certified reference material.

The Contractors, Subcontractors and Vendors Qualtrax workflow and corresponding report document approved entities for services and supplies.

### 6.5.1.2

If an external calibration service provider that meets 6.5.1.1 is not available, the competence, capability, and metrological traceability for the supplier and the external product or service being purchased shall be confirmed with objective evidence available for review/inspection.

### 6.5.1.3

The Michigan State Police Forensic Science Division is not a calibration laboratory.

### 6.5.1.4

Discipline specific procedure manuals shall detail methods to evaluate equipment applicability that are used to alter any certified reference material and the traceable measurement value.

### 6.5.2

If it has been established that an instrument's calibration contributes little to the total uncertainty of the test result, case working units shall ensure that the equipment and/or instrument used provides the necessary uncertainty of measurement ([LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)). Measurements made by case working units should be traceable to the International Standard of Units (SI) through:

- a) Calibration provided by a competent laboratory; or
- b) Certified values of certified reference materials provided by a competent producer with stated metrological traceability to the SI; or

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- c) Direct realization of the SI units ensured by comparison, directly or indirectly, with national or international standards.

### 6.5.3

Where traceability of measurements to SI units is not possible and/or not relevant, discipline specific procedure manuals shall establish traceability to other appropriate measurement standards such as certified reference materials or reference standards, e.g.:

- a) Certified values of certified reference materials provided by a competent producer;
- b) Results of reference measurement procedures, specified methods or consensus standards that are clearly described and accepted as providing measurement results fit for their intended use and ensured by suitable comparison.

## 6.6 Externally Provided Products and Services

### 6.6.1

FSD reserves the right to subcontract products and services as necessary. Forensic Science Division Technical Leaders will be responsible to the customer for the subcontractor's work by approving the use of a specific subcontractor, conducting audits/inspections as deemed necessary and developing technical specifications for the subcontractor to work within, except in the case where:

- The contributor specifies a different contractor than those approved by FSD; or
- A regulatory authority specifies which subcontractor is to be used.

Externally provided products and services that affect laboratory activities shall be defined in the discipline specific procedure manuals, Laboratory Operations Manual, Local Policies and other documents that make up the laboratory's management system. The products and services shall be evaluated prior to use as applicable ensuring they:

- a) Are intended for incorporation into the laboratory's own activities;
- b) Are provided, in part or in full, directly to the customer by the laboratory, as received from the external provider;
- c) Are used to support the operation of the laboratory.

### 6.6.2

The Forensic Science Division shall have a procedure and retain records for:

- a) The State of Michigan has procurement policies and regulations that govern the purchasing of products and services. The Forensic Science Division is responsible for procurement of supplies for the laboratory. [LOM 1.17 Invoice Review and Payment](#) details the procedure for the receiving and storing of reagents and consumables necessary for examinations. Purchasing documents for items affecting the quality of the laboratory analysis contain descriptions of the supplies and services ordered. These documents will be reviewed for technical content and approved by Laboratory Managers prior to orders being placed.
- b) The laboratory will ensure that purchasing documents for items affecting the quality of the laboratory analysis contain descriptions of the supplies and services ordered. These documents will be reviewed for technical content and approved by Laboratory Managers prior to orders being placed. The State of Michigan has a list of approved vendors. The laboratory will evaluate suppliers of critical consumables, supplies and services that affect the quality of analysis. Only

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supplies that meet the specifications of the technical methods will be used. Discipline specific procedure manuals maintain a list of the critical consumables and a record of the quality control of each of these critical consumables. [LOM 2.10 Control of Materials and Supplies](#).

- c) The Forensic Science Division will maintain a list of all subcontractors approved for forensic examinations. Documentation of the compliance of the subcontractor with the requirements of accreditation for forensic examinations in question will be maintained. The laboratory will evaluate the quality of the supplies, reagents and consumables purchased to ensure that they comply with the specifications set forth by the discipline specific procedure manuals. Any supply, reagent, or consumable material that affects the quality of analysis will be verified prior to use. Records will be maintained documenting this verification. If the product does not meet specifications, [LOM 2.10 Control of Materials and Supplies](#) details the steps that will be taken.
- d) The laboratory will maintain a list of approved vendors on the document management site.

### 6.6.3

Documentation of the purchase requisition process, including State of Michigan contracts and purchase orders, contain the laboratory's requirements. These documents include:

- a) The products and services requested.
- b) The acceptance criteria for the products and services. Acceptance criteria for calibration services is communicated to the vendor when services are requested using forms provided by the vendor or through communication with the vendor. The criteria used are documented in [LOM 2.8 Calibration, Maintenance and Inventory of Equipment](#)
- c) The competence, including any required qualification of personnel. For calibration services, FSD only uses vendors that are accredited to ISO/IEC 17025 by an IAAC or ILAC MRA signatory and the type of equipment being calibrated listed on their scope of accreditation. This may be verified through the vendor's accrediting body.
- d) Activities that the laboratory, or its customers, intends to perform at the external provider's premises.