

## Procedure for Writing Technical Procedures

**1.0 Purpose** – This procedure specifies when a technical procedure is needed and outlines the required elements for writing the technical procedure.

**2.0 Scope** – This procedure applies to all technical procedures performed by State Crime Laboratory (Laboratory) personnel.

### 3.0 Definitions

- **Calibration** – Adjustment or standardization of the accuracy of a measuring instrument, usually by comparison with a certified reference or standard.
- **Performance verification** - The confirmation of the reliability of a previously validated method(s) or equipment.
- **Reference standard** – An object or substance which is used as a control or measurement base for similar objects or substances.
- **Sampling** - The testing of a representative portion of a substance, material or item and reporting on the whole substance, material or item.
- **Uncertainty of measurement** – A parameter associated with the result of a measurement that characterizes the distribution of values that could reasonably be attributed to that being measured. Sources contributing to the uncertainty include, but are not limited to, the operator; reference standards and reference materials used; methods and equipment used; environmental conditions; properties and condition of the item being tested or calibrated.

### 4.0 Procedure

**4.1** Technical procedures are required for the following:

- Examining evidence.
- Handling evidence.
- Uncertainty of measurement.
- Search of databases.
- Sampling processes.
- Operation and calibration of instrumentation.

**4.2 Format** – The following subjects shall be required in each technical procedure in the order noted below. If the subject does not pertain to the technical procedure, N/A (the abbreviation for not applicable) shall be included under the heading. Authors may include other subjects as necessary for a particular technical procedure.

**4.2.1 Title** – Titles used in technical procedures shall be brief and associated with the content.

**4.2.2 Purpose** – The purpose of the technical procedure shall be clearly stated.

**4.2.3 Scope** – The scope shall specify the applicability of the technical procedure and the types of evidence for which the procedure is suitable.

**4.2.4 Definitions** – Words and terms which are unique to the procedure shall be included.

**4.2.5 Equipment, Materials and Reagents** – Pertinent equipment, materials, reagents, working standards, controls, and reference standards used in performing the procedure and any specified levels of quality shall be listed.

**4.2.6 Procedure (Step by Step Directions)**

**4.2.6.1** Chronological steps required to perform the procedure correctly shall be specified. The use of any controls, standards and blanks shall be included. Instructions for performance checks shall be specified as necessary. The procedure shall specify the data, observations, and results to be recorded; the method of obtaining and recording data, observations, and results; and the criteria for acceptance or rejection of data. Unique safety warnings associated with the particular step shall also be included.

**4.2.6.2** The following sub-topics may be covered in the technical procedure; however, they may be located in a separate technical procedure. If a separate method is used, it shall be referenced in the technical procedure.

**4.2.6.2.1 Standards and Controls** –The preparation and/or checking of necessary standards and controls shall be described. Criteria for acceptance or rejection of data based on results for standards and controls shall be included.

**4.2.6.2.2 Calibration** - For instruments requiring calibration, the calibration shall be performed by following steps included in the technical procedure or by using a separate procedure. Calibration interval and acceptance criteria shall be included when applicable.

**4.2.6.2.3 Maintenance** – Maintenance shall be performed on a scheduled basis.

**4.2.6.2.4 Sampling** – If sampling is conducted, technical procedures shall be based on statistical methods when appropriate and shall address the factors to be controlled to ensure the validity of the examination results.

**4.2.6.2.5 Calculations** – Example calculations used for statistical or other data evaluation shall be included.

**4.2.6.2.6 Uncertainty of Measurement** – Case working Sections shall report the uncertainty of the measurement (when established) for barrel length, overall firearm length, drug weight (net only), alcohol/acetone quantitation, and reported drug quantitation.

**4.2.7 Limitations** –The technical procedures shall specify when the procedure shall not be used; the circumstances under which the procedure may not provide accurate results (i.e., environmental conditions); and any other limitation specific to the procedure.

**4.2.8 Safety** – Any hazards associated with the performance of the procedure shall be specified.

**4.2.9 References** – References used in developing the technical procedure and sources for additional information shall be included. References may include relevant national and international

standards and technical publications; validation studies; operation manuals supplied by an instrument manufacturer; relevant technical documents; and established in-house methods.

**4.2.10 Records** – Any records which may be generated by performing this procedure shall be specified.

**4.2.11 Attachments** – Documents may be attached to the technical procedure for illustrative purposes (sample forms, flowcharts, etc.). If a document is attached, it shall be noted.

**4.2.12 Revision History** – The effective date, version number, and any changes to the technical procedure shall be included. Superseded versions shall be maintained as provided in the Laboratory Procedure for Document Control and Management.

**4.3 Correction Factors** - If calibrations give rise to a set of correction factors, each Section shall ensure that they are included in the technical procedure.

**4.4 Using Technical Procedures** - Technical procedures shall be used for all analyses. Deviations from technical procedures shall be completed as provided in the Laboratory Procedure for Authorizing Deviations.

## **5.0 Records**

- Technical procedures
- Associated forms

## **6.0 Attachments**

- Appendix A –Template for Writing Technical Procedures

| Revision History |                |                                                                           |
|------------------|----------------|---------------------------------------------------------------------------|
| Effective Date   | Version Number | Reason                                                                    |
| 09/17/2012       | 1              | Original Document                                                         |
| 12/07/2012       | 2              | 4.2.9 - removed last sentence to correspond with procedures               |
| 03/08/2013       | 3              | 4.2.6.1 - added that the procedure shall specify method of obtaining data |
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|                  |                |                                                                           |

## Appendix A – Template for Writing Technical Procedures

### Procedure for \_\_\_\_\_

#### 1.0 Purpose

#### 2.0 Scope

#### 3.0 Definitions

#### 4.0 Equipment, Materials and Reagents

#### 5.0 Procedure

Standards and Controls

Calibrations

Sampling

Calculations

Uncertainty of Measurement

#### 6.0 Limitations

#### 7.0 Safety

#### 8.0 References

#### 9.0 Records

#### 10.0 Attachments

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