



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

Quality Assurance Manual

Process Requirements-Measurement Uncertainty

7 Process Requirements

7.6 Evaluation of Measurement Uncertainty

7.6.1 Applicable Unit SOPs will have procedures in place for evaluating any significant contributors to the measurement uncertainty associated with their testing/calibration activities.

7.6.1.1 The procedures will include:

- a) An evaluation of procedures to ensure all items contributing to the measurement uncertainty are accounted for and included in the calculations. This includes measuring devices and instruments;
- b) The process of rounding the expanded uncertainty;
- c) The coverage probability of the expanded uncertainty to be a minimum of 95.45%; and
- d) Specify the schedule to review and/or recalculate the measurement uncertainty.

7.6.2 The Breath Alcohol Calibration Unit shall have procedures in place for evaluating the measurement uncertainty associated with calibration activities.

7.6.3 TBI Laboratory units reporting results from weighing and/or measuring evidence are required to evaluate the measurement uncertainty.

7.6.3.1 TBI Laboratory units reporting results from quantitative analysis of evidence are required to evaluate the measurement uncertainty.

7.6.4 The following records will be maintained by each unit for each evaluation and estimation of measurement uncertainty:

- a) statement defining the measurand;
- b) statement defining how traceability is established for the measurement;
- c) the equipment used;
- d) all uncertainty components considered;
- e) all uncertainty components of significance and how they were evaluated;
- f) data used to estimate repeatability, intermediate precision, and/or reproducibility;
- g) all calculations performed; and
- h) the combined standard uncertainty, the coverage factor, the coverage probability, and the resulting expanded uncertainty.

7.6.5 Records will be retained for at least one accreditation cycle.