



Forensic Quality Services - International

Forensic Requirements for Accreditation

Policy based on Supplementary Guidelines for Interpretation

FRAP 4 - Traceability

REVISION LOG

Version	Issued	Changes
May 2004	May 2004	First issue of document
2006/1	June 26, 2006	Added revision log; updated document footers; renamed to FRAP "4" to be consistent with other FQS-I policy document designations
2008/1	January 24, 2008	Deleted FQS-I address and phone numbers from cover sheet.

Traceability Policy

Implementation of Traceability Policy in Accredited Laboratories

It is a fundamental requirement that the results of all accredited calibrations and the results of all calibrations required to support accredited tests shall be traceable to national and international standards of measurement. Section 5.6 of ISO/IEC 17025 details the specific requirements for traceability to be met by testing and calibration laboratories. This supplement provides guidance as to how these requirements may be met and how traceability of measurement can be assured by an accredited forensic testing agency.

1. General

Laboratories shall be able to demonstrate proper use of traceable standards and test and measurement equipment by competent laboratory personnel in a suitable environment in performing the tests for which accreditation is desired or held. This demonstration will include the determination of the appropriate uncertainty of measurement.

Calibration certificates received by FQS-I accredited testing laboratories with new or recalibrated equipment shall meet the requirements of ISO/IEC 17025. The certificates must include the uncertainty of measurement and/or a statement of compliance with an identified metrological specification or clauses thereof.

2. Demonstration of traceability

2.1 FQS-I accredited laboratories may submit appropriate physical standards and test and measurement equipment directly to NIST or, when appropriate, to another national metrology institute. Accredited laboratories may obtain certified reference material from NIST (called Standard Reference Materials under copyright) or from another national metrology institute. Use of a national metrology institute other than NIST shall be documented and will be assessed by FQS-I.

2.2 Testing laboratories that perform calibration only for themselves do not need to be accredited as calibration laboratories. For the purpose of assuring traceability, an accredited laboratory may calibrate its own equipment if the appropriate requirements of NIST Handbook 150 have been met.

2.3 FQS-I accredited laboratories that do not demonstrate traceability as described in 2.1 or 2.2 shall use ISO accredited calibration laboratory services wherever available.

2.4 If an FQS-I accredited laboratory submits physical standards or test and measurement equipment to a calibration service provider that is not ISO accredited, the laboratory shall:

- a) document that an appropriate calibration service provider is not available;
- b) audit the claim of traceability of the provider of the calibration service and document the following areas related to the calibration and claim of traceability of its standards and test and measurement equipment:
 - 1) information regarding assessment of the quality system used by the calibration service provider;
 - 2) the calibration procedure(s) used by the calibration service provider;
 - 3) the physical standards or other test and measurement equipment used by the calibration service provider (including evidence of traceability to standards maintained by NIST or an appropriate national metrology institute and copies of relevant calibration certificates);
 - 4) information regarding the calibration intervals of relevant standards or other test and measurement equipment;
 - 5) the environmental condition of the laboratory;
 - 6) the method(s) by which uncertainties are determined (e.g., Guide to the Expression of Uncertainty in Measurement (GUM)); and
 - 7) the relative uncertainties achieved at all steps of the process;
- c) pursue the traceability chain until traceability to appropriate stated references is completely validated, when a calibration service provider submits physical standards and/or test and measurement equipment used in the calibration to another laboratory(s) not accredited by FQS-I;
- d) enter the audit documentation, including all findings of nonconformance and resolutions of those findings, into the laboratory's quality management record-keeping system.

NOTE: *An on-site visit to the provider of the calibration service is encouraged, but is not required as long as the information listed above is obtained and otherwise verified. Self-declaration of compliance to ISO/IEC 17025 or other relevant standards by a calibration service provider is not acceptable evidence of verification of traceability. Citation of a NIST Test Number by the calibration service provider likewise is not acceptable evidence of verification of traceability*

2.5. If traceable calibration is not available or appropriate, laboratories may demonstrate comparison to a widely used standard that is clearly specified and mutually agreeable to all parties concerned, particularly in measurements where NIST does not maintain a U.S. national standard. For example, NIST does not maintain a standard for all hardness testing scales. There are several widely used commercial standards available for

hardness. However, these standards may not all give equivalent measurement results; therefore, it is important to specify which standard is used and to obtain agreement among all parties involved that the choice made is acceptable.