



Policy on Uncertainty of Measurement As Required by ISO/IEC 17025

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FOREWORD

Dubai is a rapidly expanding Emirate, and the Government places great emphasis on providing quality services. The main role of DM is to formulate the Emirate's urban strategic plans as well as the provision of essential infrastructure, environmental and health services for the continued development of Dubai as a modern, safe and dynamic Emirate. The DM, through its Dubai Accreditation Department (DAC) undertakes assessment and accreditation of various Conformity Assessment Bodies (CABs) according to International Standards, guidelines and world best practices.

This policy document has been prepared to define the policy of the Dubai Accreditation Department for the implementation of the requirements of ISO/IEC 17025 related to the estimation of measurement uncertainty for testing and calibration laboratories. This policy replaces the DAC interim policy on the implementation of the measurement uncertainty.

While accreditation will normally be an indication of the quality of services offered by the CABs, it should not be regarded as a guarantee that the CAB will always maintain a particular level of performance. It shall not, in any way, diminish the contractual obligation between the CAB and its clients. It is subject to revision periodically when deemed necessary. It is the responsibility of the CAB to ensure that the latest version of this document is available for reference and implementation.



1. OBJECTIVE

To define the DAC policy in the implementation of the requirements of ISO/IEC 17025 related to the estimation of measurement uncertainty for testing and calibration laboratories.

2. SCOPE

This policy covers both the accredited laboratories and for those laboratories seeking accreditation to ISO/IEC 17025. These requirements apply only to those tests and calibrations that are included in the scope (or proposed scope) of accreditation.

3. POLICY

3.1 Calibration Laboratories (the term as used herein includes Testing Laboratories Performing In-House Calibration)

- 3.1.1 Calibration laboratories shall document its procedure for the estimation of measurement uncertainty.
- 3.1.2 Calibration Laboratories shall report their measurement uncertainty on all calibration certificates/report as per the relevant clause (5.10.4.b) of ISO/IEC 17025.
- 3.1.3 Calibration laboratories shall report its best measurement capability, on its scope of accreditation (not applicable to Testing Laboratories Performing In-house Calibration).
- 3.1.4 Calibration laboratories shall maintain records of calibration personnel and these records shall demonstrate the technical competence of the personnel performing calibration including the estimation of uncertainty of measurement.

3.2 Testing Laboratories

- 3.2.1 The laboratory shall carry out a Needs Assessment for all tests in the scope (or proposed scope) of accreditation. The needs assessment shall define what actions will be necessary with regard to the reporting of uncertainty.
- 3.2.2 Testing Laboratories shall document its procedure for the estimation of measurement uncertainty. Such measurement uncertainties shall be applied where necessary as per the Needs Assessment given below.
- 3.2.3 The Needs Assessment matrix shall group the tests into the categories defined below.

Category 1:

Qualitative or semi-quantitative tests that require no uncertainty budgets. (Ex. Go-no-go tests, Tests that are exposure or environmental simulation only such as Salt Spray as per ASTM B117, etc., Tests where the result is numerically rated by judgment: such as Tape Adhesion ASTM D3359, Tests where results are a comparison from a reference plaque such as, Microstructure ASTM A247)



Category 2:

A test performed to well recognized test methods that specify limits to the values of the major sources of uncertainty of measurement and specifies the form of presentation of calculated results as defined in ISO/IEC 17025 Clause 5.4.6.2 Note 2. (Ex. Tensile Properties of Plastics ASTM D638, Compression Properties of metals ASTM E9, Tension Testing of Metals ASTM E8, Mooney Viscosity ASTM D1646)

Category 3:

Physical, chemical, environmental, or biological/microbiological test methods based on published regulatory or consensus methods; such as APPHA, AOAC, ASTM, BS, for which uncertainty is not defined in the method. For these types of test, uncertainty may be estimated using the standard deviation of laboratory control samples for more than 50 points.

Category 4:

Non-standard and laboratory-developed methods, (including modified standard methods where the modification may affect the measurement uncertainty) that need identification of all components of uncertainty and detailed measurement uncertainty budgets calculated in accordance with published methods that are consistent with the ISO “Guide to the Expression of Uncertainty of Measurements”.

- 3.2.4 Categories 1 and 2 does not require any estimation of uncertainty while Categories 3 and 4 require varying degrees of rigor when estimating the measurement uncertainty.
- 3.2.5 Testing laboratories shall report measurement uncertainty where applicable as per clause (5.10.3.c) of ISO/IEC 17025.

4. IMPLEMENTATION

- 4.1 Calibration Laboratories (or testing laboratories doing in-house calibration) seeking accreditation to the requirements of ISO/IEC 17025 shall apply their procedure for estimating measurement uncertainty and shall be able to show records of it being implemented for at least 3 months prior to the accreditation assessment.
 - 4.1.1 The testing laboratories shall apply their procedure for estimating uncertainty of measurement, and shall be able to show all necessary measurement uncertainties as defined in the Needs Assessment and the uncertainty budgets being implemented for at least 3 months prior to the accreditation assessment.