

Overview of the Recommended Guide for Determining and Reporting Uncertainties for Balances and Scales

Speaker/Author: Val Miller
NIST Office of Weights and Measures
State Laboratory Program
100 Bureau Drive, M/S 2600
Gaithersburg, MD 20899-2600 , USA
Email: val.miller@nist.gov
Phone: 301-975-3602; Fax: 301-926-0647

Abstract

As scale and balance service organizations have become ISO9000 registered or accredited to ISO Guide 25 and ANSI/NCSL Z540-1-1994, now implemented as ISO/IEC 17025, the number of requests for assistance in calculating the uncertainty of a scale or balance calibration have dramatically increased. It has become evident that a guide is needed to explain the calculation of uncertainty, in a manner useable by field service personnel who are not trained statisticians.

ISO/IEC 17025 states that a calibration laboratory or testing laboratory performing calibrations shall have and shall apply a procedure to estimate the uncertainty of measurement for all calibrations. This guide will attempt to demystify the concepts of calculating scale or balance calibration uncertainty, providing specific examples, making the interpretation of the various methodologies understandable to field personnel.

The Guide will be written, compiling the information of a large number of standards and papers into one document, edited by a working group comprised primarily of field service personnel with recognized expertise in field calibrations via electronic communication methods, and will be made available through a variety of means, MSC, NCSLI, the State Laboratory Program's Regional Measurement Assurance Program, and via the Internet from the NIST, OWM web page.