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ACCEPTANCE CRITERIA FOR LABORATORY ACCREDITATION

AC89

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PREFACE

Evaluation reports issued by ICBO Evaluation Service, Inc. (ICBO ES), are based upon performance features of the Uniform family of codes and the International family of codes. Section 104.2.8 of the *Uniform Building Code*[™] (UBC), Section 104.11 of the *International Building Code*[®] (IBC) and Section R104.11 of the *International Residential Code*[™] (IRC) are the primary charging sections upon which evaluation reports are issued. Section 104.2.8 of the UBC reads as follows:

The provisions of this code are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this code, provided any alternate has been approved and its use authorized by the building official.

The building official may approve any such alternate, provided the building official finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

Similar provisions are contained in Sections 104.11 and R104.11 of the IBC and IRC, respectively.

The attached acceptance criteria has been issued to provide all interested parties with guidelines on implementing performance features of the applicable code(s) referenced in the acceptance criteria. The criteria was developed and adopted following public hearings conducted by the Evaluation Committee and is effective on the date shown above. All reports issued or reissued on or after the effective date must comply with this criteria, while reports issued prior to this date may be in compliance with this criteria or with the previous edition. If the criteria is an updated version from a previous edition, solid vertical lines (■) in the outer margin within the criteria indicate a technical change or addition from the previous edition. Deletion indicators (◆) are provided in the outer margins where a paragraph or item has been deleted if the deletion resulted from a technical change. This criteria may be further revised as the need dictates.

ICBO ES may consider alternate criteria, provided the proponent submits valid data demonstrating that the alternate criteria are at least equivalent to the attached criteria and otherwise meet the applicable performance requirements of the codes. Notwithstanding that a material, type or method of construction, or equipment, meets the attached acceptance criteria, or that it can be demonstrated that valid alternate criteria are equivalent and otherwise meet the applicable performance requirements of the codes, if the material, product, system or equipment is such that either unusual care in its installation or use must be exercised for satisfactory performance, or malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use thereof, ICBO ES retains the right to refuse to issue or renew an evaluation report.

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TABLE OF CONTENTS

SCOPE	PAGE
1.0 INTRODUCTION	2
1.1 Scope	2
1.2 Reference Documents	2
2.0 BASIC INFORMATION	2
3.0 DEFINITIONS	2
4.0 REQUIRED DATA	3
5.0 ASSESSMENT	3
ANNEX A	3
ANNEX B	3

1.0 INTRODUCTION

1.1 Scope: The purpose of this criteria is to provide requirements for the operation of testing laboratories and the qualifying data that must be submitted for accreditation of laboratories by ICBO ES.

Annex A addresses the conditional recognition of data and requirements for nonaccredited laboratories submitting data for proponents of ICBO ES evaluation reports.

Proponents who submit test reports generated in the facilities of a nonaccredited laboratory are responsible for submitting data that demonstrates compliance with Annex A of this criteria for each laboratory where the tests are conducted, together with the appropriate fees outlined in the ICBO ES fee schedule.

Test reports which are based on data generated at manufacturers' test facilities and which are submitted to ICBO ES in support of evaluation reports are subject to the requirements of Annex B of this criteria.

1.2 Reference Documents:

1.2.1 ISO/IEC (International Organization for Standardization/International Electrotechnical Commission) Standard 17025: 1999, *General Requirements for the Competence of Calibration and Testing Laboratories*.

1.2.2 ICBO ES Acceptance Criteria for Test Reports and Product Sampling (AC85).

1.2.3 ICBO ES Rules of Procedure for Laboratory Accreditation.

2.0 BASIC INFORMATION

The following basic information is necessary:

2.1 Data showing compliance with the ICBO ES Rules of Procedure for Laboratory Accreditation.

2.2 Data showing compliance with Section 4, Required Data, of this criteria.

3.0 DEFINITIONS

3.1 LABORATORY is a body that calibrates and/or tests.

3.1.1 Notes: In cases where a laboratory forms part of an organization that carries out other activities besides calibration and testing, the term "laboratory" refers only to those parts of that organization that are involved in the calibration and testing process.

3.1.2 As used herein, the term laboratory refers to a body that carries out calibration or testing at or from a permanent location,

3.2 TESTING LABORATORY is a laboratory that performs tests.

3.3 CALIBRATION LABORATORY is a laboratory that performs calibration.

3.4 CALIBRATION is the set of operations which establish, under specified conditions, the relationship between values indicated by a measuring instrument or measuring system, or values represented by a material measure, and the corresponding known values of a measurand.

3.4.1 Notes: The result of a calibration permits the estimation of errors of indication of the measuring instrument, measuring system or material measure, or the assignment of values to marks on arbitrary scales.

3.4.2 A calibration may also determine other metrological properties.

3.4.3 The result of calibration may be recorded in a document sometimes called a calibration certificate or a calibration report.

3.4.4 The result of a calibration is sometimes expressed as a calibration factor, or as a series of calibration factors in the form of a calibration curve.

3.5 TEST is a technical operation that consists of the determination of one or more characteristics or performance of a given product, material, equipment, organism, physical phenomenon, process or service according to a specified procedure.

3.5.1 Note: The result of a test is normally recorded in a document sometimes called a test report or a test certificate.

3.6 CALIBRATION METHOD is the defined technical procedure for performing a calibration.

3.7 TEST METHOD is a defined technical procedure for performing a test.

3.8 VERIFICATION is a confirmation by examination and provision of evidence that specified requirements have been met.

3.8.1 Note: In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment.

3.8.2 The result of verification leads to a decision either to restore to service, or to perform adjustments, or to repair, or to downgrade, or to declare obsolete. In all cases it is required that a written trace of the verification performed be kept on the measuring instrument's individual record.

3.9 QUALITY SYSTEM is the organizational structure responsibilities, procedures, processes and resources for implementing quality management.

3.10 QUALITY MANUAL is a document stating the quality policy, quality system and quality practices of an organization.

3.10.1 Note: The quality manual may call up other documentation relating to the laboratory's quality arrangements.

3.11 REFERENCE STANDARD is a standard, generally of the highest metrological quality available at a given location, from which measurements made at that location are derived.

3.12 REFERENCE MATERIAL is a material or substance of which one or more properties are sufficiently well established to be used for the calibration of an apparatus, the

assessment of a measurement method, or for assigning values to materials.

3.13 CERTIFIED REFERENCE MATERIAL (CRM) is a reference material one or more of whose property values are certified by a technically valid procedure, accompanied by or traceable to a certificate or other documentation which is issued by a certifying body.

3.14 TRACEABILITY is the property of a result of a measurement whereby it can be related to appropriate standards, generally international or national standards, through an unbroken chain of comparisons.

3.15 PROFICIENCY TESTING is a determination of the laboratory calibration or testing performance by means of interlaboratory comparisons.

3.16 REQUIREMENT is a translation of the needs into a set of individual quantified or descriptive specifications for the characteristics of an entity in order to enable its realization and examination.

3.17 NONACCREDITED TESTING LABORATORY is a laboratory that generates test data for recognition in an evaluation report but that is not accredited by ICBO ES.

4.0 REQUIRED DATA

4.1 The laboratory seeking accreditation must submit data showing compliance with ISO/IEC Standard 17025: 1999, *General Requirements for the Competence of Calibration and Testing Laboratories*.

4.2 The following policy on measurement traceability and calibration is supplemental to the requirements noted in ISO/IEC Standard 17025. Accredited testing laboratories are required to ensure traceability of their measurements (whenever such traceability is achievable) by obtaining calibration services either directly from a national laboratory, such as the National Institute of Standards and Technology (NIST), or from a calibration laboratory accredited under ISO/IEC Standard 17025 or ANSI/NCSL Z540. In all cases, bodies issuing accreditations to calibration laboratories must operate under ISO Guide 58, *General Requirements for Operation and Recognition of Calibration and Testing Laboratory Accreditation Systems*.

Laboratories performing in-house calibrations are required to maintain the reference standards and equipment necessary to ensure traceability. The reference standards/equipment must be calibrated by an accredited calibration laboratory or by NIST.

In cases in which calibration services are not available from an accredited laboratory as defined above, laboratories must be able to demonstrate the steps they take to ensure the quality and traceability of their calibration services. Calibration certificates must include the information required by the ICBO ES Acceptance Criteria for Test Reports and Product Sampling (AC85). Additionally, calibration certificates must state the estimated uncertainty of the calibration measurements.

4.3 All certificates and test reports shall meet the requirements of the ICBO ES Acceptance Criteria for Test Reports and Product Sampling (AC85).

5.0 ASSESSMENT

5.1 Prior to accreditation, laboratories shall be subject to an on-site assessment by ICBO ES. This assessment is to determine compliance with these criteria and to evaluate expertise and equipment in the area(s) of testing where accreditation is sought.

5.2 ICBO ES will conduct an on-site reassessment or surveillance assessment of accredited laboratories at a minimum of once every two years for verification of continued compliance with ICBO ES accreditation requirements.

ANNEX A

NONACCREDITED TESTING LABORATORIES

This annex is intended to facilitate recognition of data, submitted by the proponent of an evaluation report, from a nonaccredited testing laboratory. Refer to Section 3.17 for the definition of a nonaccredited testing laboratory.

The report applicant is responsible for submitting a quality system manual from each nonaccredited laboratory used to generate test data for recognition in an evaluation report. Fees must be paid for review of the data. The quality system manual must address each item in Section 4 of this criteria. Review and acceptance of the manual by ICBO ES is required before test data can be utilized, and acceptance is limited to recognition of the data for the specific product evaluation report file under consideration. Future submission of data requires reconfirmation of the nonaccredited laboratory's independence from the manufacturer, submission of an updated quality system manual, payment of administrative fees for review of the data, and inspection of the facility if this is deemed necessary by ICBO ES. The report applicant will be responsible for expenses incurred by ICBO ES for inspection of the test facility when inspection is deemed necessary by ICBO ES.

This annex does not apply to laboratories having current accreditation by ICBO ES, or which have a pending application for accreditation.

ANNEX B

DATA FROM MANUFACTURERS' TEST FACILITIES

Data generated at manufacturers' test facilities must result from tests conducted under the direct supervision of a laboratory accredited by ICBO ES. The supervising laboratory is required to record and retain details of its investigation into the capabilities of the manufacturer's test facility. The detailed records must show the test facility to be fully qualified to do the testing, and the laboratory's procedures must be shown to be in compliance with all applicable provisions of ICBO ES acceptance criteria and the standards under which the tests were conducted. The supervisory laboratory must retain a report of its investigation on file and provide the report to ICBO ES upon request. All test reports utilizing data generated in the manufacturer's test facility must be issued by the sponsoring laboratory, and must be signed by an authorized representative of that laboratory.