Perry Johnson Laboratory Accreditation, Inc.

Scopes of Accreditation Policy

1.0 INTRODUCTION

1.1 This policy has been developed by Perry Johnson Laboratory Accreditation, PJLA and its technical committee to ensure consistency among Conformity Assessment Body (CAB) scopes of accreditation and application of flexible scopes, where relevant.

1.2 This policy includes requirements for CABs which maintain flexible scopes.

1.3 This document also includes sections outlining examples and criteria for scopes of accreditation based upon the requirements of ISO/IEC 17011:2017, ILAC P14 and ILAC G18 latest versions.

1.4 Specific regulatory program requirements may supersede some of these requirements.

2.0 GENERAL

2.1 A scope of accreditation identifies the specific conformity assessment activities for which accreditation is sought or has been granted.

If changes to capability, such as equipment changes or changes to calibration measurement capabilities (CMC), which impact the current scope of accreditation occur outside of an assessment, the CAB shall notify PJLA. PJLA will determine the level of review needed to update the scope accordingly.

2.2 Scopes shall be in the format as controlled by PJLA and will include:

- PJLA identification and, where relevant, the accreditation body logo;
- the name of the accredited CAB and the name of the legal entity, if different;
- the scope of accreditation in the format for the conformity assessment activity approved by PJLA
- locations of the accredited CAB and, as applicable, the conformity assessment activities performed at each location and covered by the scope of accreditation;
- the unique accreditation identification of the accredited CAB;
- the effective date of accreditation and, if applicable, its expiry or renewal date;
- a statement of conformity and a reference to the international standard(s) and/or other normative document(s), including issue or revision used for assessment of the CAB.

2.3 PJLA scopes are made publicly available at www.pjlabs.com.

Note: In exceptional cases, public access to certain information may be limited, in whole or in part, upon the request of the conformity assessment body and agreement of PJLA. e.g., for national security or confidentiality reasons.)

2.4 Footnotes are included on scopes of accreditation to identify CAB's capabilities for performing conformity assessment activities at customer locations, at fixed location and mobile units, as applicable. Additionally, the footnote section may be utilized to

indicate when a CAB has a flexible scope, clarification of calibration measurement capabilities (CMC), or any other information to further define capabilities of the CAB.

2.5 Applicant or accredited CABs are responsible for providing PJLA with the most accurate and current information available regarding their scope of accreditation.

3.0 COMMON SCOPE TABLE REQUIREMENTS

3.1 Whenever multiple items are contained within a scope cell, these items shall be separated using a comma followed by a space.

3.1.1 Except in cases of large lists within cells, it is preferred that each item appears on separate lines within the cell for the ease of identification.

3.2 Fields shall be specified on the certificate scope statement and on the certificate scope supplement.

3.2.1 If the CAB requires additional clarification to a field identified on its scope of accreditation (scope statement and scope supplement) for its economy or industry sector, the field shall be identified then in parentheses the clarifying identification. The clarifying identification must be approved by a PJLA.

Note: All statements concerning PJLA approval indicate approval through the PJLA office and Technical Program Management.

Example: Biological (Microbiological) or Chemical (Nuclear chemistry)

3.2.1.1 Clarification wording shall not:

a) Misrepresent the conformity assessment activity assessed;
b) Be misleading;
c) Refer to requirements not assessed by PJLA.

3.2.2 The fields identified on the certificate scope statement as well as on the certificate scope supplement shall match the fields for each conformity assessment activity defined in this document.

3.3 Methods issued by authoritative sources that are identified on the scope of accreditation, shall be identified by the initials of the issuing authoritative source, a space, and the method identification. At the discretion of the CAB, this may or may not include revision identification. See flexible scope section for more details.

Example: ASTM D6007 or ASTM D6007-14

Instrument manufacturer application notes are not acceptable as a reference method, as these are not considered authoritative methods that are sufficiently validated. The use of application notes shall be identified by the CAB internal method.

3.4 When the revision of an authoritative method is not defined on the scope, the CAB is expected to have available the most current version of that method, unless specifically requested by its customer.

3.4.1 If revisions, other than the most current of a test method from an authoritative source are utilized, the CAB shall be able to provide evidence that the CAB's customer specified use of a version other than the most current version, upon request.

3.5 When methods identified on the scope of accreditation are modification of methods from an authoritative source, these shall be identified by the initials of the issuing authoritative source, a space, the method identification, a space, "(modified)", a space, "with", a space and the identification of the CAB's internal standard operating procedure or work instruction identifying the modifications and or specificity for the manufacturer or type of equipment used.

Example: ASTM D6007 (modified) with CAB-WI-1234

3.6 A customer specified method shall be identified by "Customer Method", a space, the initials of the method author, a space, and the method identification.

Example: Customer Method CC 1234

When multiple Customer Methods are used, "Customer Methods" may be used. For testing laboratories, this flexibility falls under the flexible scope requirements of this document.

3.7 A CAB's internal method shall be identified by the CAB's initials, a space, and the SOP or WI and its identification.

Example: CAB SOP-1234 or CAB-SOP-1234, Rev. 4,
CAB Caliper Calibration Procedure
Testing Procedure CAB-12345-2

Generic terms such as "in-house SOP" are not acceptable.

3.8 Differing from a customer specified method is a customer specification. A customer specification is a document issued by a customer that describes the requirements related to the item under the conformity assessment activity by the expected services of a CAB.

When a customer specification is used, this shall be identified after the method standard operating procedure or work instruction, a space, and "w/Customer Specifications". If the use of a specification is used for multiple methods in a cell, then it shall be identified as "All w/Customer Specification".

Example: CAB-SOP-1234 w/Customer Specifications

or

CAB-SOP-1234, CAB SOP 1235, CAB SOP 1236, All w/ Customer Specifications

3.9 The CAB may reference a specific technology or piece of equipment. When this is done, the technology shall be identified by the manufacturer, a space, the model, a space, and the technology.

Example: Agilent 7900 ICP-MS or Fluke 179 Multimeter

Note: Identification of manufacturers in examples found in this document does not constitute product endorsement.

3.10 When units are provided on a scope of accreditation, these shall be International System of Units (SI) base units or SI derived units.

3.10.1 NIST Special Publication 330, The International System of Units (SI), and NIST Special Publication 811, Guide for the Use of the International System of Units (SI) provide guidance for the use of the SI system of units to be used on scopes of accreditation.

3.10.2 The base and derived units are to be used to express the values of quantities. Comparable values using other units may be given in parentheses, [e.g., ()] following those values in SI units, when necessary for the industry served.

3.10.3 Abbreviations such as “sec” (for second) or “mps” (for meter per second), shall not be used. Only standard unit symbols, SI prefix symbols, unit names, and SI prefixes shall be used.

3.10.4 Per parts notation such as “ppm” (part per million) and “ppb” part per billion shall not be used to express the values of quantities.

3.11 Specific Information related to scope table requirements for each program may be found in the following appendices:

Appendix A	Rules for Preparation of ISO/IEC 17025 Calibration Scopes
Appendix B	Rules for Preparation of ISO/IEC 17025 Testing Scopes
Appendix C	Rules for Preparation of ISO/IEC 17020 Inspection Scopes
Appendix D	Rules for Preparation of ISO 15189 Medical Scopes
Appendix E	Rules for Preparation of ISO 17034 Reference Material Producer Scopes
Appendix F	Rules for Preparation of ISO/IEC 17043 Proficiency Testing Provider Scopes
Appendix G	Rules for Preparation of ISO/IEC 17025 Sampling Scopes
Appendix H	Rules for Preparation of ISO/IEC 17065 Scopes

4.0 FLEXIBLE SCOPES

4.1 General

4.1.1 ISO/IEC 17011:2017 defines a flexible scope as an expression “to allow conformity assessment bodies to make changes in methodology and other parameters which fall within the competence of the CAB as confirmed by the accreditation body”.

4.1.1.1 CABs (ISO/IEC 17025 Calibration Laboratories, ISO/IEC 17025 Testing, ISO 15189 Medical

Laboratories, ISO 17034 Reference Material Producers, and ISO/IEC 17043 Proficiency Testing Providers) are granted flexible scopes which provides benefits to the CAB to add a method, matrix, or analyte without having to request PJLA for an expansion to the scope, not including modifications to methodologies.

Only programs referenced above allow Flexible Scopes to be identified on scopes of accreditation.

4.1.2 A fixed scope is a scope which contains a well-defined description of the specific conformity assessment activities identified on the scope of accreditation. Examples include but are not limited to specific items tested, analyte lists, and methods identified with revision status.

The fixed scope does not allow additional or modified items or changes to activities to be added to a CAB scope without further assessment, even where competence in the area has already been demonstrated.

4.1.3 A flexible scope is not limited to scopes that are flexible in their entirety. It is also relevant to scopes that include a combination of fixed and flexible activities, or for primarily fixed scopes that, for example include one or two flexible items.

4.1.4 For all flexible scopes, the CAB shall:

4.1.4.1 have documented procedures for method validation and verification and demonstrate the method is fit for purpose;

4.1.4.2 establish procedures, such as contract review, to evaluate and ensure that customer requests are followed within the scope of the defined guidelines

4.1.4.3 readily identify the use the flexibility identified on the scope of accreditation

4.1.4.4 maintain appropriate resources (e.g., personnel/authorizations, equipment, facilities) related to managing the flexibility identified.

4.1.4.5 maintain records for all validation/verification activities, contract review and competence records;

This information related to the CAB use of their flexible scope obtained must be made available for review at each assessment or upon request.

4.1.5 Many scopes contain inherent flexibility. Examples of inherent flexibility include but are not limited to the identification reference or in-house methods without revision identification, generic categories for items test (e.g., automotive components, cannabis infused products), or the identification of general categories for parameters and not individual parameters themselves (e.g., metals instead of Al, As, Ba, Hg, etc.). In these cases, PJLA will assign the flexibility determined through scope review.

4.1.6 If the CABs decides they do not want to utilize the inherent flexibility of the scope as identified, they may choose to "fix" the items on the scope from generalized to specific items for the area of flexibility identified.

4.2 Specific Types of Flexibility

4.2.1 ISO/IEC 17025 Calibration

4.2.1.1 Flexibility in the scope may allow an ISO/IEC 17025 Calibration laboratory to:

F1: The laboratory has the capability to introduce a new instrument, quantity, or gauge for an accredited calibration method;

For ISO/IEC 17025 Calibration, this code is used when the CAB identifies a generic term in the measured instrument, quantity, or gauge within the scope of accreditation. This is permitted if the device being calibrated adheres to the method specified in the scope of accreditation and the actual uncertainty is following suite in the same manner not affecting the Calibration and Measurement Capability (CMC) specified in the scope of accreditation.

The examples below show how the same items may be identified in both a flexible and fixed manner.

Flexible Example	Fixed Example
Torque measuring instruments	Hydraulic Torque Wrench
Thermometers	Liquid in Glass Thermometers

F2: The laboratory has the capability to introduce a new version of an accredited standard method (method requires same identity as version on scope and must contain no modifications);

For ISO/IEC 17025 Calibration, this code is used when the CAB uses calibration method from an authoritative source without a specific revision noted and the laboratory has demonstrated processes which can support method verification of the new version of the method and the changes to the method do not impact the Calibration and Measurement Capability (CMC) identified on the scope of accreditation

For example:

Flexible Example	Fixed Example
ISO 16063-34	ISO 16063-34 (2019)

F3: The laboratory has the capability to introduce a new version or modifications of an accredited non-standard method.

For ISO/IEC 17025 Calibration, this code is used when the CAB developed calibration method is stated without a specific revision noted allowing the laboratory to make changes to a current accredited method which do not impact the Calibration and Measurement Capability (CMC) identified on the scope of accreditation.

For example:

Flexible Example	Fixed Example
CAB-SOP-1234	CAB-SOP-1234, Rev.4
CAB-WI-1234	CAB-WI-1234 (Jan 2023)

F4: The laboratory has the capability to introduce a method that is equivalent to an accredited method (using the same Calibration Equipment or Reference Standards, method requires same identity as version on scope and must contain no modifications).

For ISO/IEC 17025 Calibration, this code is used when methods are used by the Calibration laboratory in addition to the method(s) identified on the scope of accreditation which use the same Calibration Equipment or Reference Standards as identified on the scope of accreditation and do not impact the Calibration and Measurement Capability (CMC) identified on the scope of accreditation.

For example:

Flexible Example	Fixed Example
CAB-SOP-1234	CAB-SOP-1234, ASTM E898 − 20
ASTM E4-21	CAB-WI-Force 1, ASTM E4-21

F0: Fixed scope item. No deviations allowed to the line item as identified, except for updating to the most recent version of an accredited standard method after verification.

4.2.1.2 Flexibility in the scope for an ISO/IEC 17025 Calibration laboratory does not allow for changes in methodology and other parameters which could affect the Calibration and Measurement Capability (CMC) identified on the scope of accreditation.

4.2.2 ISO/IEC 17025 Testing

4.2.2.1 Flexibility in the scope may allow an ISO/IEC 17025 Testing laboratory to:

F1: Laboratory has the capability to test a new item, material, matrix, or product similar in composition to item, material, matrix, or product identified on the scope.

For ISO/IEC 17025 Testing, this code is used when generic terms are used with the scope and the laboratory has demonstrated processes can support the addition of new items, materials, matrices, or products within the stated generic terms.

For example:

Flexible Example	Fixed Example
Cannabis infused products	Cannabis infused chocolate
Water	Drinking Water

F2: Laboratory has the capability to introduce the newest revision of an accredited authoritative standard method (with no modifications) identified on the scope. (Method requires same identity as version on scope and must contain no modifications.)

For ISO/IEC 17025 Testing, this code is used when the test method from an authoritative source is stated within the scope without a specific revision noted and the laboratory has demonstrated processes which can support method verification.

For example:

Flexible Example	Fixed Example
ASTM D4057	ASTM D4057-95 (2000)
EPA 200.8	EPA 200.8 Rev 5.4

F3: Laboratory has the capability to introduce a parameter/component/analyte to an accredited test method identified on the scope.

For ISO/IEC 17025 Testing, if multiple parameters may be determined by the method but a generic term is identified within the scope and the laboratory has demonstrated processes can support the addition of parameters/components/analytes to an accredited test method.

For example:

Flexible Example	Fixed Example
Metals	Metals Aluminum, Antimony, Arsenic, Barium
Fatty Acids	Fatty Acids Caprylic acid, Capric acid, Lauric acid, Myristic acid

F4: Laboratory has the capability to introduce a new revision of an accredited non-standard method using the same technology or technique identified on

the scope. (Method requires same identity as version on scope and must contain no modifications.)

For ISO/IEC 17025 Testing, this code is used when the CAB developed test method is stated within the scope without a specific revision noted and the laboratory has demonstrated processes which can support method development, validation, and verification.

For example:

Flexible Example	Fixed Example
CAB-SOP-1234	CAB-SOP-1234, Rev.4
CAB-WI-1234	CAB-WI-1234 (Jan 2023)

F5: Laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using same technology or technique) identified on the scope for the same parameter, component, or analyte identified on the line item of the scope.

For ISO/IEC 17025 Testing, this code is applied when the CAB maintains the capability to analyze the same parameter, component, or analyte identified on the line item—using the same technology as specified on the scope—even though the reference or in-house method employed differs in identification.

For example:

With this code designated on the scope, the CAB may utilize an ash determination method for flour—identified as AOAC 923.03 by furnace/gravimetry on the scope—and apply the same furnace/gravimetry technique to the ashing for other foodstuffs using other equivalent methods. The alternative methods may include other validated authoritative methods or validated in-house methods using the same techniques.

This is the only flexibility code that may be requested by the CAB, all others are assigned based on how they are identified on the scope.

F0: Fixed scope item. No deviations allowed to the line item as identified, except for updating to the most recent version of an accredited standard method after verification.

4.2.2.2 Flexibility in the scope for an ISO/IEC 17025 Testing laboratory does not allow the introduction of a new technology.

4.2.3 ISO 15189 Medical Testing

4.2.3.1 Flexibility in the scope may allow an ISO 15189 Medical laboratory to:

F1: Laboratory has the capability to introduce a property to an accredited test method identified on the scope.

For ISO 15189, multiple properties may be determined by the method, but a generic term is identified in this scope matrix cell. This is acceptable if the laboratory has demonstrated processes that can support the addition of the properties to the accredited test method.
For example:

Flexible Example	Fixed Example
Electrolytes	Electrolytes Sodium, Potassium, Chloride

F2: Laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using the same Measurement Technique/ Instrument) identified on the scope. (Method requires same identity as version on scope and must contain no modifications.)

For ISO 15189 Testing, if multiple properties may be determined by the technology and a generic term is identified within the scope. This is acceptable if the laboratory has demonstrated processes that can support the addition of the properties to the accredited technology.

For example:

With this code identified on the scope, a CAB accredited for a Basic Chemistry Panel on a specified chemistry analyzer may add a comprehensive panel and lipid panel on the same analyzer.

F0: Fixed Scope Item. There are no changes to items tested, characteristics identified or versions of methods except for updating to the most recent version of a standard method after verification.

4.2.3.2 Flexibility in the scope for an ISO 15189 Medical laboratory does not allow the introduction of a new technology.

4.2.4 ISO 17034 Reference Materials Producers

4.2.4.1 Flexibility in the scope may allow an ISO 17034 Reference Material Producer to:

F1: The RMP can introduce a new product for an accredited class or type of reference material.

This code is used for RPMs which have demonstrated processes that can support the addition of products using the approach(es) used to assign property values for that matrix or artifact. (e.g., adding a new inorganic solution for inorganic solutions chemistry or adding a different alloy for metallurgical reference materials).

For example:

Flexible Example	Fixed Example
Inorganic Solutions	Cadmium solution, 100 mg/L
Alloys	Nickel-Cadmium-Chromium Alloy

F2: The RMP can introduce a new compound/analyte using an accredited class or type of reference material

This code is used for RPMs which have demonstrated processes that can support the addition of new compounds within classes of compounds they already hold accreditation for.

For example:

Flexible Example	Fixed Example
Per- and Polyfluoroalkyl Substance (PFAS) Standards	Potassium perfluoro-1-butanesulfonate, Potassium perfluoro-1-hexanesulfonate, Perfluorooctane-1-sulfonic acid, Perfluoro-n-pentanoic acid, Perfluoro-n-hexanoic acid, Perfluoro-n-heptanoic acid, Perfluoro-n-octanoic acid, Perfluoro-n-nonanoic acid, Perfluoro-n-decanoic acid

F0: Fixed scope item. No deviations allowed to the line item as identified, except for updating to the most recent version of an accredited standard method after

4.2.4.2 Flexibility in the scope for an ISO 17034 Reference Material Producer does not allow:

- the introduction of approach(es) used to assign property values within an accredited matrix or artifact; or,
- the introduction of a new technology by the RMP in-house or other laboratory used for property characterization and value assignment.

4.2.5 ISO/IEC 17043 Proficiency Testing Providers

4.2.5.1 Flexibility in the scope may allow an ISO/IEC 17043 Proficiency Testing Provider to:

F1: The PTP can introduce a new compound/component/analyte for an accredited scheme.

This code is used for Proficiency Testing Providers which have demonstrated accredited processes that can support the introduction of a new measurand

/characteristic or type measurand /characteristic for an accredited scheme for a Proficiency Testing item.

For example:

Flexible Example	Fixed Example
Metals in wastewater	Silver in Wastewater

F2: The PTP can introduce a new product of similar composition of an artifact used for an accredited scheme.

This code is used for Proficiency Testing Providers which have demonstrated accredited processes that can support the introduction similar sample types, product types, reference materials, pieces of equipment, measurement standards, data sets or other information used for the Proficiency Testing scheme.

For example:

Flexible Example	Fixed Example
Fuels and Oils	Jet Fuel

F0: Fixed scope item. No deviations allowed to the line item as identified.

4.2.5.2 Flexibility in the scope for an ISO/IEC 17043 Proficiency Testing Provider does not allow:

- The introduction of a new field of PT scheme; or,
- The introduction of a new technique for the determination of the assigned value and its uncertainty.

APPENDIX A –

RULES FOR PREPARATION OF ISO/IEC 17025 CALIBRATION SCOPES

A.1 The calibration scope of accreditation is a formal document issued by PJLA to its accredited conformity assessment bodies (CABs). It contains the information identified in figure A-1 below.

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY

Figure A.1 Calibration Scope Matrix Headers

A.2 CALIBRATION FIELD

A.2.1 Fields of accreditation for calibration shall be defined as listed below:

- Dimensional: Calibration of dimensional equipment/instruments
- Electrical: Calibration of electrical equipment/instruments
- Time and Frequency: Calibration of time and frequency equipment/instruments
- Acoustic: Calibration of acoustic equipment/instruments
- Mass, Force, and Weighing Devices: Calibration of mass, force, and weighing device equipment/instruments
- Mechanical: Calibration of mechanical equipment/instruments
- Chemical: Calibration of chemical equipment/instruments
- Thermodynamic: Calibration of thermodynamic equipment/instruments
- Optical: Calibration of optical equipment/instruments
- Ionizing Radiation and Radioactivity: Calibration of ionizing radiation and radioactivity equipment/instruments
- Fluid Quantities: Calibration of fluid quantities equipment/instruments

A.3 MEASURED INSTRUMENT, QUANTITY OR GAUGE

A.3.1 This category represents the calibration that is being performed by the CAB. It shall be specific to the instrument, gauge, or artifact which is being calibrated. (i.e., analytical balances, indirect verification of Rockwell Hardness HRC, or outside micrometers)

A.4 RANGE (AND SPECIFICATION WHERE APPROPRIATE)

A.4.1 This category shall define the range, which is the magnitude between the lower and upper boundaries of the calibration parameter. For devices which are non-variable or nonadjustable, the range is reduced to a discrete value. In this case, the fixed value represents the expected nominal value of the device and typically is not less than three times the CMC identified on the scope.

A.4.2 PJLA will accept the range stated in one of the following three formats:

A.4.2.1 A fixed value:

A.4.2.1.1 This format is appropriate when the device to be calibrated has a fixed nominal value such as the length of an end standard, the stated value of a SRM (Standard Reference Material), or the temperature of a Triple Point of Water matrix cell.

A.4.2.1.2 In this case, the fixed value represents the expected nominal value of the device.

A.4.2.1.3 When the range is expressed as a fixed value the fixed value typically is not less than three times the CMC identified on the scope.

A.4.2.2 A range beginning with “up to” and ending with a fixed value:

A.4.2.2.1 This format is appropriate when the CAB wishes to indicate the measurement capacity of equipment it can calibrate rather than stating its actual range of calibration capability for the calibration to which the range applies.

A.4.2.2.2 It is understood that a non-zero low end of the range does exist, but there is no requirement that it be specified. It must be clearly understood by the CAB that values of zero at the low end of the range are not permitted.

A.4.2.2.3 Any range beginning with “up to” cannot encompass like calibration points unless there is a change specified such as the resolution of the device under test, or the equipment used in the calibration. Additionally, there cannot be two like values specified with different CMCs unless there is a clear indication that there is a change.

A.4.2.3 A range between two fixed values:

A.4.2.3.1 This format is appropriate when the device to be calibrated can measure “the absence of all magnitude or quantity” within the uncertainty of measurement associated with its calibration.

A.4.2.3.2 The low end of the range represents the smallest calibrated standard used by the CAB in calibrating the device.

A.4.2.3.3 The high end of the range represents the largest calibrated standard used by the CAB in calibrating the device.

A.4.2.3.4 When the range is expressed as the interval between two fixed values the low end of the range typically should not be less than three times the CMC identified on the scope.

A.4.2.3.5 There cannot be two like values specified with different CMCs unless there is a clear indication that there is a change.

Note: PJLA will consider exceptions to this policy on a case-by-case basis.

A.5 CALIBRATION AND MEASUREMENT CAPABILITY (CMC) EXPRESSED AS AN UNCERTAINTY

A.5.1 The CAB shall determine the Calibration and Measurement Capability Uncertainty (CMC) to be identified on the scope. The CMC is the smallest uncertainty of measurement that a CAB can achieve within its scope of accreditation when performing routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. The CMC identified shall include the contribution from a best existing device to be calibrated such that the CMC claimed is demonstrably realizable.

CMCs shall represent expanded uncertainties expressed at approximately the 95 % level of confidence, using a coverage factor of k = 2.

Accredited calibration laboratories shall not report a smaller measurement uncertainty than the uncertainty described by the CMC for which the laboratory is accredited.

The actual measurement uncertainty of a specific calibration performed by the CAB may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

A.5.2 The unit of the uncertainty shall always be the same as that of the measurand or in a term relative to the measurand. (e.g., percent, µV/V, or part per 10^6).

A.5.3 Records of CMC determination shall be maintained.

A.5.4 Occurrence of uncertainty over a range

A.5.4.1 When the uncertainty remains constant over the stated range, the CMC may be expressed as an absolute uncertainty.

A.5.4.1.1 The CMC may use one value for all points in the stated range.

A.5.4.2 The second is a set of values that are linear meaning that they vary in approximate direct proportion to the increase in magnitude of the stated range.

A.5.4.2.1 The CMC may be expressed on the scope of accreditation as a relative uncertainty equation.

A.5.4.2.2 When a CAB chooses to express its CMC as a Relative Uncertainty Statement it may do so using either of the following formats:

- 72 µV/V + 2 µV
- -0.016 % of reading + 8 µV
- 0.021 % of reading

Note: Additional expressions of relative uncertainty require PJLA approval.

A.5.4.3 The third is a set of values that are non-linear, meaning that they vary at a non-uniform rate relative to the increase in magnitude of the stated range.

A.5.4.3.1 The CMC may require multiple values for points in the stated ranges.

A.5.5 Significant Digits

A.5.5.1 The numerical value of the expanded uncertainty shall not be expressed more than two significant digits. Where the measurement result has been rounded, that rounding shall be applied when all calculations have been completed; resultant values may then be rounded for presentation.

A.5.5.2 The rule for rounding numbers used in stating the CMC is that the 2 digits immediately following the last desired significant digit shall be discarded if they are 5 percent or less of the last desired significant digit. If they exceed 5 percent of the last desired significant digit, then the last desired significant digit is increased in value by 1.

A.5.5.2.1 Examples are as follows:

- 0.110 3 mV rounded to 2 significant digits is 0.11 mV
- 0.110 5 mV rounded to 2 significant digits is 0.11 mV
- 0.110 6 mV rounded to 2 significant digits is 0.12 Mv

A.5.5.2.2 Where the measurement result has been rounded, rounding shall be applied when all calculations have been completed.

A.5.5.2.3 Guidance on rounding provided in the JCGM Guide to the expression of uncertainty in measurement (GUM), shall be utilized.

A.6 CALIBRATION EQUIPMENT/REFERENCE STANDARDS USED

A.6.1 This category includes equipment used to calibrate the device. (e.g., multimeter, or Fluke 179 Multimeter).

A.6.2 Where calibrations methods use certified reference materials, scopes of accreditation should clearly describe this relationship. (e.g., Comparison to Certified Reference Materials (CRM)).

A.6.3 Where laboratories offer services such as reference value provision, the uncertainty covered by the CMC shall include factors related to the measurement procedure as it will be carried out on a sample, i.e., typical matrix effects, interferences, etc. shall be considered. The uncertainty covered by the CMC will not generally include contributions arising from the instability or homogeneity of the material. The CMC shall be based on the analysis of the inherent performance of the method for typical stable and homogeneous samples.

Note: The uncertainty described by the CMC for the reference value measurement is not identical with the uncertainty associated with a reference material provided by a reference materials producer. The expanded uncertainty of a certified reference material will generally be higher than the CMC of the reference measurement on the reference material.

A.7 CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED

A.7.1 This category includes the measurement method or procedure utilized for each calibration.

A.7.1.1 Test methods from authoritative sources without modification;

A.7.1.2 CAB modified test method from authoritative sources;

A.7.1.3 A customer specified method;

A.7.1.4 A CABs developed internal method.

A.8 Examples

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Time and Frequency	Equipment to Generate Frequency	50 mHz to 18 GHz	1 part in 10^{11} of Freq. + 1 LSD of generator	GPS Disciplined Oscillator and Signal Generators	SOP-105-ELEC	F1, F4	F, O
Electrical	Equipment to Output DC Voltage	1.1 µV low end of range	0.1 µV/V + .03 µV	Agilent 3458A Multimeter	OEM Manual	F1, F2	F
Electrical	Equipment to Output DC Voltage	100 mV	10.7 µV/V + 1.07 µV	Agilent 3458A Multimeter	OEM Manual	F1, F2	F
Electrical	Equipment to Output DC Voltage	1 V	5.86 µV/V + 5.86 µV	Agilent 3458A Multimeter	OEM Manual	F1, F2	F
Electrical	Equipment to Output DC Voltage	10 V	5.59 µV/V + 55.9 µV	Agilent 3458A Multimeter	OEM Manual	F1, F2	F
Electrical	Equipment to Output DC Voltage	100 V	7.93 µV/V + 793 µV	Agilent 3458A Multimeter	OEM Manual	F1, F2	F
Thermodynamic	Temperature Measurement Thermocouple Type J	-196 °C to -100 °C	0.66 °C	SPRT and Dry Block Fluke 5520A Calibrator	ASTM E220	F1, F2	F, O
Thermodynamic	Equipment to Measure Humidity @ 25 °C	10 % RH to 95 % RH	1 % RH	Two Pressure Humidity Generator	Thunder Scientific Manual	F1, F2	F, O
Dimensional	Micrometer OD	Up to 36 in	(68+7.1L) µin	Gage Blocks	GIDEP 33K6-4-15-1	F1, F2	F, O
Mass, Force, and Weighing Devices	Balances	1 g to 180 g	0.1%+.0005 g	Class 7 Weights	GIDEP NAVAIR 17-20MM-18	F1, F2	F, O

Appendix B

Rules for Preparation of ISO/IEC 17025 Testing Scopes

B.1 The testing scope of accreditation is a formal document issued by PJLA to its accredited conformity assessment bodies (CABs). It contains the information identified in figure B-1 below.

B.1.1 Some testing programs (e.g., TNI-EL, DoD-ELAP, DOECAP-AP, ASCA), require program specific scope formats. Consult the applicable program's SOP-1.

FIELD OF TEST	ITEMS, MATERIALS, OR PRODUCTS TESTED	COMPONENT, CHARACTERISTIC, PARAMETER TESTED	SPECIFICATION OR STANDARD METHOD	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY

Figure B.1 Testing Scope Matrix Headers

B.2 FIELD OF TEST

B.2.1 The entry in this category shall represent the generic classification of the testing services provided by the CAB from the list below:

B.2.1.1 Acoustic Testing: Measurements of noise, vibration, and sound level testing.

B.2.1.2 Biological: Biological, microbiological, and biochemical testing and measurement.

B.2.1.3 Chemical: Chemical analysis and detection including instrumental and automated methods.

This field includes, but is not limited to: Agrochemistry, Biochemistry, General Chemistry, Forensic chemistry, Geochemistry, Industrial chemistry, Materials chemistry, Nuclear chemistry, Petrochemical, Pharmaceutical chemistry, Radiochemistry.

B.2.1.4 Dimensional Inspection: Determination of dimensional parameter to establish magnitude or for comparison to defined nominal.

B.2.1.5 Electrical: Tests of an electrical and electronic nature performed on instruments, equipment, appliances, components, and materials.

B.2.1.6 Environmental Analysis: Tests for constituents in various environmental media.

This field includes but is not limited to: Chemistry (Organic/Inorganic), Radiochemical Testing, Microbiological Testing, Toxicity Testing, Asbestos Testing.

B.2.1.7 Environmental Simulation: Tests requiring replication of the different climatic conditions and mechanical stress that products are exposed to during their lifetime.

B.2.1.8 Mechanical: Tests, measurements, and evaluation of physical properties of materials, components, and assemblies.

B.2.1.9 Non-Destructive: Examination of materials, components, and assemblies to detect discontinuities without damaging the originally submitted material, component, or assembly.

B.2.1.10 Optical Testing: Tests for the performance of fiber optic components, cable plants and systems.

B.2.1.11 Thermodynamic: Tests of measurements and transformations of energy to heat.

B.2.1.12 Information Technology: Tests to evaluate security of software products or applications.

B.3 ITEMS, MATERIALS OR PRODUCTS TESTED

B.3.1 This category shall define the products, materials or other items tested. (e.g., Metal Components, Wastewater, fixtures, electronic components)

B.4 COMPONENT, CHARACTERISTIC, PARAMETER TESTED

B.4.1 This category describes the tests being performed. It shall be specific and fully describe the test or property measured (e.g., Lead, Mechanical Shock, Electrostatic Discharge (ESD)).

B.4.2 When a general category followed by a list of specific analytes/parameters is used, the general category shall be identified as bold as the top of the cell with no punctuation. The next line of the cell will start the analyte list in normal emphasis, with each analyte separated by a comma and space. Separate lines for each analyte are preferred.

See example below:

Pesticides Acephate, Acequinocyl, Acetamiprid, Aldicarb, Azoxystrobin, … Until end of list

B.5 SPECIFICATION OR STANDARD METHOD

B.5.1 This category shall include the test methods or procedures utilized to perform the test. This includes:

B.5.1.1 Test methods from authoritative sources without modification;

B.5.1.2 CAB modified test method from authoritative sources;

B.5.1.3 A customer specified method;

B.5.1.4 A CAB developed internal method.

B.6 TECHNOLOGY OR TECHNIQUE USED

B.6.1 This category shall identify the Technology or Technique used for performing the specific test. (e.g., GC/MS, ICP, CMM, PCR)

B.6.2 Should the CAB require a range identified to support an industry sector, the range may be associated under the technology in this column and must aligned to each Component, Characteristic, Parameter Tested identified as per Section B.4 above.

If there is inherent flexibility for the Component, Characteristic, Parameter Tested, the most conservative range shall be used and a footnote applied to the scope which states: "Due to the flexibility provided, the most conservative range is identified. Contact the CAB for specific ranges for component, characteristic, or parameter of interest."

B.7 Examples

FIELD OF TEST	ITEMS, MATERIALS, OR PRODUCTS TESTED	COMPONENT, CHARACTERISTIC, PARAMETER TESTED	SPECIFICATION OR STANDARD METHOD	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY
Chemical	Potable water, non-potable water	Metals	EPA 200.7	ICP-OES	F1, F2, F3	F
Biological	Sprouts	*E. Coli* O157:H7	AOAC 2000.13	Reveal	F2	F
Dimensional Inspection	Parts	Measurement of Parts Geometrically Dimensioned and Tolerance (GD&T)	ASME Y 14.5	Optical 3D Scanner	F1, F2	F, O
Mechanical	Fabric	Air Permeability	ISO 9237	Air Permeameter	F1, F2	F
Thermodynamic	Isothermal Media	Stability and Uniformity	Technical Guide CENAM: Traceability Metrology and Measurement Uncertainty in Thermal Characterization of Bath and Temperature Controlled Furnaces	Fluke 54 Datalogger Huato Model S220-T8	F1, F2	F, O

Appendix C

Rules for the Preparation of ISO/IEC 17020 Inspection Scopes

C.1 The inspection body scope of accreditation is a formal document issued by PJLA to its accredited conformity assessment bodies (CABs). It contains the information identified in figure C-1 below.

Inspection Category Type

INSPECTION CATEGORY	FIELD OF INSPECTION	TYPES OR RANGES OF INSPECTIONS	SPECIFICATION, STANDARD METHOD, OR TECHNIQUE USED	LOCATION OF ACTIVITY

Figure C.1 Inspection Body Scope Matrix Headers

C.2 INSPECTION BODY TYPES

C.2.1 Inspection body shall be defined by their independence as Type A, Type B, or Type C inspection body types.

The following Inspection Body types shall be placed on the main certificate.

C.2.1.1 Type A- An inspection body providing third party inspections.

C.2.1.2 Type B- An inspection body providing first party inspections, second party inspections, or both, which forms a separate and identifiable part of an CAB involved in the design, manufacture, supply, installation, use or maintenance of the items it inspects, and which supplies inspection services only to its parent CAB (in-house inspection body).

C.2.1.3 Type C- An inspection body providing first party inspections, second party inspections, or both, which forms an identifiable, but not necessarily a separate part of an CAB involved in the design, manufacture, supply, installation, use or maintenance of the items it inspects, and which supplies inspection services to its parent CAB or to other parties, or to both.

C.2.1.4 Annex A in ISO/IEC 17020 shall be used as guidance in the determination of independence requirements for each type of inspection body.

C.3 FIELDS OF INSPECTION

C.3.1 This category shall define the specific inspection field which the inspection body is accredited. This is specified as a broad category of inspections in which the specific type or ranges of inspection will fall into. Examples include, but may not be limited to:

Agricultural products	Asbestos	Building
Bulk cargo (e.g., petroleum, coal)	Cargo in containers and packages	Cast products
Construction – General Building	Chemical	Cranes
Electrical	Engineering	Farmed Fish
Fire Protection System and/or Fire-Resistant Construction	Food processing	Foods
Drugs, Dietary Supplements, Pharmaceuticals	Forensic	Forged products
Gaming Systems	Gas	Legionella Risk assessments
Mechanical/machinery	Non-Destructive Testing	Operational Verification
Personal Protective Equipment	Pipelines	Pressure Systems
Product Manufacturing	Protective coatings	Rolled products
Social Care Providers - Adult	Shellfish Purification Plants	Structures (e.g., steel, concrete)
Textiles	Toys - Safety	Welding

C.3.2. In some fields, such as non-destructive, it may be difficult to determine if testing or inspection would be the most appropriate.

PJLA has determined the following distinction between the two and recommend that CABs should select the most appropriate program based on their activities. Inspection is the examination of a product, process, service, or installation or their design and determination of its conformity with specific requirements or, based on professional judgment, with general requirements.

Typically, items would be inspected once all other activities have taken place in which testing may very well be a prerequisite prior to the inspection taken place. The inspection activity would not include the actual testing of the specific substance, artifact, or sample however the examination of the items after the testing has been completed. The completed testing may be one area which the inspection activity would encompass.

C.4 TYPE OR RANGE OF INSPECTION

C.4.1 The type or range of inspection shall be specific as to what is being inspected or detected by the inspection body within the field of inspection.

FIELD OF INSPECTION	TYPES OR RANGES OF INSPECTIONS
Pressure Equipment	Boilers and Pressure Vessels
Fire Protection System and/or Fire-Resistant Construction	Sprayed Fire-Resistant Materials and Mastic and Intumescent Fire-Resistant Coating
Electric	Documentation and Packaging Inspection
	General and Detailed Visual Inspection
	Solvent test for remarking/resurfacing
	X-ray inspection
	XRF lead finish evaluation
	Inspection by Electron Microscope
	Solderability
	Acceptability of Electronics Assemblies
	LCR Comparison to datasheet
Asbestos-Surveying for asbestos on premises	Management survey: (domestic, commercial premises)
	Refurbishment and demolition survey: (domestic, commercial premises)
Legionella Risk Assessments	Water Sampling for the purpose of Legionella Risk Assessment
	Total viability counts, Legionella and Pseudomonas
	Indicative water testing (pH, conductivity, temperature, bromine, chlorine)
	Total viability counts using dip slides
Cargoes: Transportation of Dangerous Goods	Periodic in-service inspection including periodic and intermediate inspections, and exceptional checks

C.5 SPECIFICATION, STANDARD METHOD, OR TECHNIQUE USED

C.5.1 This category shall clearly indicate what the inspection body is using to perform inspections. Any exceptions to meeting full specifications or standards specified, shall be clearly noted.

The following is a list of examples:

C.5.1.1 Pressure Equipment:

ANSI/NB 23 (ANSI/NB 369), (ANSI/ASME QAI-1), ASME Boiler & Pressure Vessel Code ANSI/ASME- Section I, III, IV, VIII div.1,2,3, X, XII, B31.1, ANSI/ASME B31.3, B31.5, PVHO, API 510, API 653, API 570 including Design Examinations and Jurisdictional requirements, as applicable

C.5.1.2 Fire Protection System and/or Fire-Resistant Construction:

NFPA 80, NFPA 105

C.5.1.3 Building – Installation of Construction Products:

Special Inspection as per 2014 NYC Construction Code provision inclusive of 1RCNY 101-06, 101-07, FCA Management System Documentation including Inspection Procedure, Version 1.2, Revised 12/04/2015

C.5.1.4 Electrical:

IEEE 1680:2006 - Standard for Environmental Assessment of Electronic Products, IEEE 1680.2:2012 - Environmental Assessment of Imaging Equipment, IEEE 1680.3:2012 - Environmental Assessment of Televisions

C.5.1.5 Drugs, Dietary Supplements, Pharmaceuticals:
FDA Compliance Program Guidance Manual: Drug Manufacturing Inspections Program 7356.02 21 CFR 1 Subpart L – Foreign Supplier Verification Program

C.6 Example

INSPECTION CATEGORY	FIELD OF INSPECTION	TYPES OR RANGES OF INSPECTIONS	SPECIFICATION, STANDARD METHOD, OR TECHNIQUE USED	LOCATION OF ACTIVITY
Type A	Pressure Equipment	Boilers and Pressure Vessels	ANSI/NB 23 (ANSI/NB 369), (ANSI/ASME QAI-1), ASME Boiler & Pressure Vessel Code ANSI/ASME- Section I, III, IV, VIII div.1,2,3, X, XII, B31.1, ANSI/ASME B31.3, B31.5, PVHO, API 510, API 653, API 570 including Design Examinations and Jurisdictional requirements, as applicable.	O
Type A	Fire Protection System and/or Fire-Resistant Construction	Sprayed Fire-Resistant Materials and Mastic and Intumescent Fire-Resistant Coating	AWCI 12-B	O

Appendix D

Rules for the Preparation of ISO 15189 Medical Scopes

D.1 The medical testing scope of accreditation is a formal document issued by PJLA to its accredited conformity assessment bodies (CABs). It contains the information identified in figure D-1 below.

FIELD OF TEST	SUBFIELD OF TEST	SPECIMEN TYPE TESTED	PROPERTY TESTED	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY

Figure D.1 Medical Testing Scope Matrix Headers

D.2 FIELD OF TEST

D.2.1 The category shall represent the specialty classification of the medical testing services provided by the CAB from the list below:

D.2.1.1 Histocompatibility
D.2.1.2 Microbiology
D.2.1.3 Diagnostic Immunology
D.2.1.4 Chemistry
D.2.1.5 Hematology
D.2.1.6 Immuno-Hematology
D.2.1.7 Pathology
D.2.1.8 Radiobioassay
D.2.1.9 Cytogenetics
D.2.2.0 Molecular Biology

D.3 SUBFIELD OF TEST

D.3.1 The category shall represent the subspecialty of the above specialty classification of the medical testing services provided by the CAB from the list below:

D.3.1.1 Histocompatibility
No Subfields used.

D.3.1.2 Microbiology
Subfields: Bacteriology, Mycobacteriology, Mycology, Parasitology, Virology, Molecular

D.3.1.3 Diagnostic Immunology
Subfields: Syphilis Serology, General Immunology

D.3.1.4 Chemistry
Subfields: Routine Chemistry, Urinalysis, Endocrinology, Toxicology

D.3.1.5 Hematology
No Subfields used.

D.3.1.6 Immuno-Hematology

Subfields: ABO/Rh Group, Antibody Transfusion, Antibody Non-Transfusion, Antibody Identification, Compatibility Testing

D.3.1.7 Pathology

Subfields: Histopathology, Oral Pathology, Cytology

D.3.1.8 Radiobioassay
No Subfields used.

D.3.1.9 Cytogenetics
No Subfields used.

D. 3.2.0 Molecular Biology (Add examples Techniques)
No Subfields used.

D.4 SPECIMEN TYPE TESTED

D.4.1 This category shall define the substance being tested. (e.g., nasopharyngeal swab, whole blood, serum, urine, feces, wound swab).

D.5 PROPERTY TESTED

D.5.1 This category shall define the specific characteristic of a substance being tested for. (e.g., total cholesterol, HDL cholesterol, LDL cholesterol and triglycerides, Complete Blood Count (CBC), Urine specific gravity).

D.6 TECHNOLOGY OR TECHNIQUE USED

D.6.1 This category shall identify the Technology or Technique used for performing the specific test. (e.g., Chemistry analyzer, Cell counter, Coagulometer, Microscopic examination).

D.6.1.1 The CAB may reference a specific technology. When this is done, the technology shall be identified by the manufacturer and model. (e.g., Beckman Coulter AU5822 clinical chemistry analyzer).

D.7 Example

FIELD OF TEST	SUBFIELD OF TEST	SPECIMEN TYPE TESTED	PROPERTY TESTED	TECHNOLOGY OR TECHNIQUE USED	FLEX CODE	LOCATION OF ACTIVITY
Chemistry	Urinalysis	Urine	Urine specific gravity	Refractometer	F0	F
Chemistry	Routine Chemistry	Whole Blood	Electrolytes	ARCHITECT c8000 clinical chemistry analyzer	F1	F
Hematology		Blood	Complete Blood Count (CBC)	Hematology Analyzer	F1	F
Microbiology	Bacteriology	Feces	Clostridium difficile	PCR	F0	F

Appendix E

Rules for the Preparation of ISO 17034 Reference Material Producer Scopes

E.1 The reference material producer scope of accreditation is a formal document issued by PJLA to its accredited CABs. At a minimum, it contains the information identified in the figure E. 1 below.

E.1.1 Additional information may be included based on documented industry or regulatory needs identified by the CAB and submitted to PJLA for approval.

TYPE OF RM	REFERENCE MATERIAL MATRIX OR ARTIFACT	PROPERTIES CHARACTERIZED	APPROACH USED TO ASSIGN PROPERTY VALUES	TECHNOLOGIES USED FOR APPROACH TO ASSIGN PRPOERTY VALUES	FLEX CODE	LOCATION OF ACTIVITY

Figure E.1 RMP Scope Matrix Headers

E.2 TYPE OF REFERENCE MATERIALS

E.2.1 The scope shall identify if the accredited material produced is either a Reference Material (RM), a Certified Reference Material (CRM), or both, RM/CRM.

E.3 REFERENCE MATERIAL MATRIX OR ARTIFACT

E.3.1 This category reflects the characteristics of the material, such as: gas mixtures, neat materials, solutions, alloys, etc.

E.4 PROPERTIES CHARACTERIZED

E.4.1 This category describes the property that is characterized, such as the identification and concentration of its chemical constituent.

E.5 APPROACH USED TO ASSIGN PROPERTY VALUES

E.5.1 This category refers to the characterization approach used, such as using a single reference measurement procedure in a single laboratory, characterization of a non-operationally defined measurand using two or more methods of demonstrable accuracy in one or more competent laboratories, etc. See ISO 17034 7.12.3 for additional information.

E.6 TECHNOLOGIES USED FOR APPROACH TO ASSIGN PRPOERTY VALUES

E.6.1 This category refers to the technologies used for the characterization approach used to assign property values identified in ISO 17034 7.12.3.

E.6.1.1 When characterizing is by weight and volume, identify approach, a space, “verified by”, a space, and any technologies used to verify production activities. (e.g., Volumetric verified by Titration, Gravimetric verified by ICP-MS)

E.7 Example

TYPE OF RM	REFERENCE MATERIAL MATRIX OR ARTIFACT	PROPERTIES CHARACTERIZED	APPROACH USED TO ASSIGN PROPERTY VALUES	TECHNOLOGIES USED FOR APPROACH TO ASSIGN PRPOERTY VALUES	FLEX CODE	LOCATION OF ACTIVITY
RM/CRM	Organic Solutions	Identity and concentration of single or multi-component organic materials in solution	single reference measurement procedure in a single laboratory	GC GCMS LCMS LCMSMS GCMSMS HRGC	F1, F2	F
RM/CRM	Organic Solutions	Identity and concentration of single or multi-component organic materials in solution	value transfer using a single measurement procedure in a single laboratory	GC GCMS LCMS LCMSMS GCMSMS HRGC	F1, F2	F
RM/CRM	Gas Mixture	Identity and concentration of multi-component gas mixtures	value transfer using a single measurement procedure in a single laboratory	GCMS	F1, F2	F
RM/CRM	Inorganic Solutions	Identity and concentration of single or multi-component inorganic materials in solution	Based on mass/volume of ingredients used in preparation	Gravimetry Verified by: Electrochemical Analysis Titration ICPMS	F1, F2	F
RM/CRM	Metals in Solution	Identity and concentration of single or multi-component inorganic materials in solution	Based on mass/volume of ingredients used in preparation	Gravimetry Verified by: ICP ICPMS	F1, F2	F
RM/CRM	Zinc Alloys	Identity and concentration of Elements present	Network of competent laboratories	WD-XRF, ED-XRF, AS-AES, DCA-AES, HC-AES, GD-AES, GD-MS, DCP-AES, ICP-OES, ICP-MS, AA, GF-AA, Inert Gas Fusion and Combustion Techniques	F1, F2	F

Appendix F

Rules for the Preparation of ISO/IEC 17043 Proficiency Testing Providers Scopes

F.1 The testing scope of accreditation is a formal document issued by PJLA to its accredited conformity Assessment bodies (CABs). At a minimum, it contains the information identified in the figure F. 1 below.

F.1.1 Additional information may be included based on documented industry or regulatory needs identified by the CAB and submitted to PJLA for approval.

FIELD OF PT SCHEME	PT ITEM TYPE	MEASURAND(S) OR CHARACTERISTIC(S) OR WHERE APPROPRIATE THE TYPE OF MEASURAND(S) OR CHARACTERISTIC(S) THAT ARE TO BE IDENTIFIED, MEASURED OR TESTED	TECHNIQUES FOR DETERMINATION OF THE ASSIGNED VALUE AND ITS UNCERTAINTY	FLEX CODE	LOCATION OF ACTIVITY

Figure F.1 PT Scope Matrix Headers

F.2 Field of PT Scheme

F.2.1 This category refers to the proficiency testing scheme designed and operated in one or more rounds for a specific area of measurement, testing, calibration, examination, sampling or inspection.

F.2.2 Proficiency testing provider scopes of accreditation fields should align with the fields of the CABs which participate in proficiency testing.

F.2.3 Fields may be those identified in the programs as defined above or as defined in the economy of the proficiency testing provider.

F.3 Type of proficiency testing item

F.3.1 This category refers to the type of proficiency testing item is the type of sample, product, artifact, reference material, piece of equipment, measurement standard, data set or other information used to assess participant performance in proficiency testing.

F.4 Measurand(s) or characteristic(s) that are to be identified measured or tested

F.4.1 This category refers to measurands or characteristics measured, calibrated, or tested for a Proficiency testing item.

F.5 Techniques for determination of the assigned value and its uncertainty

F.5.1 This category refers to the approaches used by the proficiency testing provider to determine assigned value(s) and where relevant, uncertainties.

F.5.2 The most common procedures for determining the assigned value are listed below:

F.5.2.1 formulation;
F.5.2.2 a certified reference material;
F.5.2.3 results from one laboratory;
F.5.2.4 consensus value from expert laboratories;
F.5.2.5 consensus value from participant results.

F.5.3 A CAB may request other procedures for determining the assigned values to appear on the scope of accreditation, with PJLA approval.

F.6 Example Scope

FIELD OF PT SCHEME	PT ITEM TYPE	MEASURAND(S) OR CHARACTERISTIC(S) OR WHERE APPROPRIATE THE TYPE OF MEASURAND(S) OR CHARACTERISTIC(S) THAT ARE TO BE IDENTIFIED, MEASURED OR TESTED	TECHNIQUES FOR DETERMINATION OF THE ASSIGNED VALUE AND ITS UNCERTAINTY	FLEX CODE	LOCATION OF ACTIVITY
Mechanical	Linerboard	Burst Strength, Ring Crush Strength (RCT), Internal Bonding Strength	Consensus Value of Participants Consensus Value from Expert Laboratories	F2	F
Environmental Analysis	Potable Water	Metals, VOCs, Disinfection Byproducts	Formulation Certified Reference Value	F1, F2	F

Appendix G

Rules for Preparation of ISO/IEC 17025 Sampling Scopes

G.1 The sampling scope of accreditation is a formal document issued by PJLA to its accredited conformity Assessment bodies (CABs), this can be for ISO/IEC 17025. At a minimum, it contains the information identified in the figure G.1 below. This will be a sub-table to a scope of accreditation for either calibration of testing.

G.1.1 Additional information may be included based on documented industry or regulatory needs identified by the CAB and submitted to PJLA for approval.

FIELD OF SAMPLING	ITEMS, MATERIALS, OR PRODUCTS SAMPLED	TECHNIQUE OR METHOD USED	LOCATION

Figure G.1 Sampling Scope Matrix Headers

G.2 FIELD OF SAMPLING

G.2.1 This category shall identify the industry sector and subsequent conformity assessment activity (e.g., calibration, inspection, or testing) for which the sampling is performed.

G.2.1.1 The statement shall always begin with “For Subsequent” followed by the “industry sector” and the conformity assessment activity e.g., “calibration”, “inspection”, or “testing”. (e.g. For Subsequent Cargo Inspection, For Subsequent Electrical Calibration, For Subsequent Dimensional Inspection).

G.3 ITEMS, MATERIALS, OR PRODUCTS SAMPLED

G.3.1 This category shall identify the item, material or product which is sampled. This will typically be described in generic terms.

G.4 TECHNIQUE OR METHOD USED, when applicable

G.4.1 The technique shall identify the general sampling approach used. (e.g., Grab Sampling or Time/Flow Proportional Composite Sampling).

G.4.2 When sampling to an authoritative method, this shall be identified in conjunction with the technique. (e.g., Incremental Sampling per CDPHE Marijuana Flower Sampling Procedure or Sampling Techniques Per ASTM D4057).

G.5 Example Scope

FIELD OF SAMPLING	ITEMS, MATERIALS, OR PRODUCTS SAMPLED	TECHNIQUE OR METHOD USED	LOCATION
Environmental	Wastewater	Time/Flow Proportional Composite Sampling	O, M
Environmental	Drinking Water	Grab Sampling	O, M
Environmental	Solid Materials	Grab Sampling Core Sampling Bore Sampling	O
Cannabis	Cannabis Plant Material	Grab Sampling Incremental Sampling per CDPHE Marijuana Flower Sampling Procedure	O
Cannabis	Cannabis Infused Products	Grab Sampling	O
Petroleum Cargo	Petroleum Products	Sampling Techniques Per ASTM D4057	O, M

Appendix H

Rules for the Preparation of ISO/IEC 17065 Product Certification Scopes

H.1 The testing scope of accreditation is a formal document issued by PJLA to its accredited conformity Assessment bodies (CABs). At a minimum, it contains the information identified in the figure H. 1 below.

H.1.1 Additional information may be included based on documented industry or regulatory needs identified by the CAB and submitted to PJLA for approval.

TYPE(S) OF CERTIFICATION	CERTIFICATION SCHEMES	APPLICABLE STANDARDS, NORMATIVE DOCUMENTS, AND/OR REGULATORY REQUIREMENTS	INDUSTRY SECTOR

Figure H.1 Product Certification Matrix Headers

H.2 Type of Certification

H.2.1 This category refers to type of certification schemes.

Certificate scheme types may include the following:

Type(s)
Product
Process
Service
Product, Process
Product, Service
Service, Process

H.3 Certification Schemes

H.3.1 This category refers to the name of the scheme.

H.4 Applicable Standards, Normative Documents, and/or Regulatory Requirements

H.4.1 This category refers to relevant scheme documents explain the scheme to the industry.

H.5 Industry Sector

H.5.1 This category refers to relevant industry sector for the scheme.

Industry sectors may include the following:

Agriculture
Automotive
Aviation/Aerospace
Biotechnology
Broadband
Wireless
Building Materials
Cannabis
Chemicals
Civil Engineering
Consumer Services
Cosmetics
Defense/Space
Electrical/Electronics
Food/Beverages
Medical/Health Care
Life Sciences
Mechanical or Industrial Engineering
Medical Equipment
Nanotechnology
Nuclear
Oil/Energy/Solar
Pharmaceuticals
Semiconductors
Telecommunications
Textiles
Utilities
Veterinary

Computer/Network Security
Construction
Consumer Goods
Mining/Metals

H.6 Example Scope

TYPE(S) OF CERTIFICATION	CERTIFICATION SCHEMES	APPLICABLE STANDARDS, NORMATIVE DOCUMENTS, AND/OR REGULATORY REQUIREMENTS	INDUSTRY SECTOR
Product	Cannabis Safety	CANSAT Safety Scheme	Cannabis