



Jordanian Accreditation System

نظام الاعتماد الأردني

Accreditation Unit

ACCREDITATION UNIT

POLICY ON IN-HOUSE CALIBRATION

Authorship

This publication has been written by the Technical Committee, and approved by the Accreditation Director.

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The text may be translated into other languages as required. The English language version remains the definitive version.

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1) Introduction

1-1 This technical policy statement outlines the requirements for organizations carrying out in-house calibrations, and highlights the aspects that **JAS-AU** will assess to determine competence in these activities.

1-2 It is recognized that organizations accredited for calibration, testing or inspection activities may choose to carry out some calibration activities in-house to support their measurement activities rather than seek the services of an external accredited laboratory.

1-3 It is essential that in-house calibration activities in support of accredited measurement activities are carried out competently and provide appropriate **metrological** traceability.

1-4 JAS policy JAS-P04 Policy on **Metrological** Traceability sets out **JAS-AU** requirements for **metrological** traceability of measurement **results**.

2) Scope

2-1 This policy applies to laboratories and inspection bodies that are carrying out in-house calibrations in support of their measurement activities:

- a- For their own use within their own facilities; or
- b- As a facility carrying out calibrations for other accredited sections within **their own** organization that has the same senior management and management system.

2-2 This policy applies to calibrations in support of measurements e.g. balance calibration, temperature calibrations but excludes activities that could be considered as checking instrument performance before use, such as the calibration of chromatographs etc.

3) Terminology

3-1 In house calibration: The calibration of an accredited laboratory's own reference standards or measuring and test equipment by the laboratory's own **personnel** for which the calibration measurement parameters ARE NOT included on their scope of accreditation. (A2LA - P102 Policy on Metrological Traceability)

4) Policy

4-1 Organizations carrying out in-house calibration are required to ensure that the **metrological** traceability of their calibrations meets the requirements of JAS-P04 and the relevant requirements of ISO/IEC 17025.

4-2 In all cases the organization needs to ensure that the equipment used provides the uncertainty of measurement needed.

4-3 Organizations carrying out in-house calibration are required to provide **JAS-AU** with a list of the instruments calibrated in-house; this list **shall** include at least the ranges included and their calibration and measurement capabilities (CMC)

5) Procedure:

For all instruments calibrated in-house the following **shall** be in place:

- a- An appropriate environment for carrying out the calibration;
- b- Appropriately trained and authorized personnel to both carry out and check the calibrations;
- c- Reference standards, certified reference materials or reference measuring instruments that are traceable with appropriate measurement uncertainties;

Note: It is emphasized that calibration certificates issued by equipment manufacturers or agents are not acceptable evidence of external **metrological** traceability, unless they are clearly identified as having been issued by an accredited calibration laboratory

- d- A documented and appropriate procedure for each type of calibration;
- e- An appropriate means of recording and reporting the data and results of any calculations;
- f- Measurement uncertainty:
 - The laboratory shall have and apply a procedure for evaluating measurement uncertainty.
 - Measurement uncertainty shall be **evaluated** in accordance with JAS-P03 "Policy for **evaluation** of measurement uncertainty and its implementation" for each type of calibration. The data from which the origin of the uncertainty was determined shall be documented and the assumptions made for the determination of the uncertainty shall be specified and documented.
 - Measurement uncertainty shall be taken into account when statements of compliance with specifications are made;
 - At least, uncertainty **estimation evaluation** shall take into consideration the following contributors:
 - 1- Repeatability;

- 2- Resolution;
- 3- Reference standard uncertainty;
- 4- Reference standard stability;
- 5- Environmental ~~factors~~ **conditions** (if possible).

- g- The Calibration records shall be retained minimally for the length of time between full **JAS-AU** assessments;
- h- Reference standards shall be recalibrated at appropriate intervals to ensure that the reference value is reliable;
- i- Training Records: The laboratory shall maintain training records for calibration, **personnel** and these records shall demonstrate the technical competence of the personnel performing the calibrations; and
- j- Calibration Interval: The laboratory shall have a policy or procedure for establishing and changing calibration intervals.

6) Statement

5-1 Organizations carrying out in-house calibrations in support of their accredited activities are required to maintain details of these calibrations. Organizations are required to:

- a- Include all in-house calibrations in their audit program.

Provide **JAS-AU** with a list of instruments calibrated in-house.

5-2 **JAS-AU** will use this information to ensure that the appropriate expertise is included in the assessment team to assess these activities.

5-3 Wherever possible the assessment of in-house calibrations will be covered as part of the **metrological traceability** and calibration aspects within normal assessment/surveillance activities.

5-4 On-site witnessing of in-house calibration activities can be expected at least at *initial assessment and reassessment visits*.

5-5 The ability to perform in-house calibrations will not be included in the published scope of accreditation.

5-6 An organization may be required to participate in **Proficiency testing** or Inter-laboratory

comparisons for the in-house calibration activities in one of the following cases:

If required by **jas-AU**:

- 1- If an assessment has identified concerns about the performance of, or deficiencies in, conducting in-house calibration
- 2- The organization has identified nonconforming work in its accredited measurement activities (e.g. poor performance in a proficiency test) and it is reasonable to suspect that the in-house calibration may have contributed to the poor performance.

6) References:

1. Policy on Calibration and Measurement Traceability, Laboratory Accreditation Program (PALCAN), CAN-P-1626:2011.
2. A2LA Policy on Metrological Traceability, American Association for Laboratory Accreditation, P102:**2016**.
3. JAS Policy on **Metrological** Traceability, JAS-P04: rev **h: 2020**.
4. JAS Policy for **evaluation** of measurement uncertainty and its implementation, **JAS-P03 Rev f: 2020**
5. UKAS (United Kingdom accreditation Service) Policy on Metrological Traceability, TPS 41 **Edition 5 | October 2019**