



# GUIDANCE

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Prepared by: **CONFORMITY ASSESSMENT COMMITTEE**

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Reference: **In-service inspection procedures – Requirement for the calibration of measuring equipment, which may have a significant influence on the results of an examination. (ISO/IEC 17020 Clause 6.2.6)**

## **SITUATION:**

*Where appropriate, measurement equipment having a significant influence on the results of an inspection/thorough examination, shall be calibrated before being put into service and thereafter according to an established programme.*

*Where measuring instruments are used to confirm the results of an inspection, Inspection companies/engineer surveyors should ensure that there is sufficient evidence to show the accuracy of the instrument. This would normally require calibration before being put into use and thereafter at according to an established programme. The following guidance has been produced to assist Members in this process and will be referred to UKAS in order that it would satisfy the assessment process and the appropriate IAF/ILAC guidance.*

## **GUIDANCE:**

Inspection companies/engineer surveyors shall confirm that measurement instruments used to record evidence on the condition of plant and machinery, during an inspection, are sufficiently accurate for the purpose by ensuring calibration of the equipment, where appropriate, by:

- An accredited calibration laboratory (ISO/IEC 17025) or
- Returning the equipment to the manufacturer, where the instrument is calibrated by the manufacturer, who may not necessarily be an accredited laboratory

However, there may be circumstances where calibration is not appropriate or necessary as follows:

- Where the instrument is of a simple and fixed nature, such as a steel ruler, then provided the instrument is checked for damage and replaced as necessary, calibration would not be necessary
- Where the uncertainty of the measuring instrument is well within the tolerance of the allowed error in the inspection (ie high accuracy not essential), eg load weights for testing SWL indicators
- Where the uncertainty is not specified, only an order of magnitude, eg air change using an anemometer., ambient light measurement using a lux meter
- Where the instrument effectively measures go/no go results eg ground conductors, infra red thermal imaging to assess hot spots etc
- Where the measurement does not have a significant influence on the result, such as functional testing and measurement eg load testing of a crane where an order of magnitude only is required.