



SAFETY ASSESSMENT  
FEDERATION

# Guidance

## 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)

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## **SITUATION**

Where measuring instruments are used to confirm the results of an inspection, Inspection Bodies / engineer surveyors should ensure that there is sufficient evidence to show the accuracy of the instrument. This is a requirement of ISO/IEC 17020.

ISO/IEC 17020 clause 6.2.6 states;

Where appropriate, measurement equipment having a significant influence on the results of the inspection shall be calibrated before being put into service, and thereafter calibrated 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 Bodies / 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, they 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 examined 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), e.g. 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 e.g. 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 e.g. load testing of a crane where an order of magnitude only is required.