



CONTROL AND CALIBRATION OF INSPECTION, MEASURING AND TEST EQUIPMENT

Work Procedure: SHRI-004-WPST-07



Signal & Telegraph Section

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Authorised by: Troy Barker, Signal & Telegraph Coordinator

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Issued By:

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1.0 PURPOSE

To describe the process for controlling, calibrating and maintaining monitoring and measurement equipment used by Signal & Telegraph personnel to ensure that identified equipment is available and valid results are obtained. This document further meets the requirements of SteamRanger accreditation procedure AP12.

2.0 SCOPE

This procedure applies to monitoring and measurement equipment used to demonstrate the conformance of a product or service to specific requirements. Equipment used to monitor and measure the key characteristics of SteamRanger Heritage Railway signal maintenance operations and activities that can cause illness or injury.

(Note: This procedure does not refer to equipment or instruments used for reference or indication only purposes [class II], as detailed in AP12. This equipment may be identified as appropriate or where no identification exists, shall be treated as reference only.)

3.0 DEFINITIONS

Responsible Manager – means the manager responsible for the calibrated equipment.

4.0 PROCEDURE

4.1 Identification & Scheduling

The S&T Coordinator shall establish and maintain an Calibration Register detailing equipment description, unique identification number, location, frequency of calibration and identity of calibrator.

The calibration interval may be determined with consideration to the following:

- Equipment's susceptibility to damage / alteration

- Frequency of use

- Results of calibration (ie where initial readings indicate a trend towards potential loss of required accuracy).

4.2 Calibration

Equipment shall be calibrated and maintained at appropriate intervals as defined on the calibration register.

Calibration may be performed either internally as per the relevant instructions, or externally through an acceptable supplier.

Monitoring and recording the validity of previous inspections or tests, when the equipment is found to be suspect, shall be carried out on an internal calibration test report. Suspect inspection and tests shall be repeated to prove acceptability of the results.

4.2.1 External Calibration

Where equipment is to be sent to an external organisation for calibration, the requirements for calibration and supply of a calibration record shall be communicated (eg. In a purchase order).

Equipment shall be calibrated against reference standards traceable to international or national measurement standards. Where suitable standards do not exist, manufacturer's specifications or in-house documentation shall be used.

Where discrepancies are found, the S&T Coordinator shall seek clarification and/or re-issuing of reports as required.

4.2.2 Internal Calibration

Calibration performed internally shall be in accordance with approved instructions.

Instructions shall include:

- Details of the method of checking

- Reference equipment to be used (if applicable)

- Methods of disposition of unacceptable equipment

- The acceptance criteria or accuracy for the purpose of acceptance

Manufacturer's recommendations may be referenced in describing the above.

Internal calibrations shall be carried out by competent personnel.

4.3 Status & Labelling

Calibrated equipment shall be readily identifiable with the calibration due date and the calibrator's identification.

Where this identification is not found the user of the equipment shall check with the S&T Coordinator on its status.

All equipment shall be permanently identified with a unique identification, traceable to the relevant calibration record (eg asset number, serial number etc).

The identification may be attached to the container of the equipment where there is insufficient room on the equipment itself.

4.4 Protection & Use

Equipment shall be stored, handled and used in a suitable manner to ensure they are protected from damage, deterioration or loss, and its accuracy and fitness for use is maintained.

The equipment shall be stored in their respective containers (where available). Calibration of equipment stored for extended periods need not be maintained until required for use.

The status of these items of equipment should be recorded on the register under 'comments'.

Where possible, safeguards on the equipment shall be present to avoid tampering which may invalidate its calibration status. If these safeguards have been tampered with, the equipment has been damaged or is suspect, it shall be returned to the S&T Coordinator for re-calibration to ensure its suitability.

Personnel assigned to calibrate or operate equipment shall ensure that the surrounding environmental conditions are suitable in order to ensure results obtained are valid. Due to the nature of the work performed by SteamRanger, it is not possible to use all equipment in a controlled environment. However, measurements and tests shall be conducted in a suitable environment for the accuracy required.

Equipment that is out of calibration, damaged, failed in operation or suspected of having deviated from its established measurement capability, shall be promptly removed from use, identified or segregated and S&T Coordinator advised. A review of measurements made may be repeated to confirm previous readings.

4.5 Training

The S&T Coordinator shall ensure that personnel assigned to calibrate or operate measuring and monitoring equipment are competent.

4.6 Records

Records of internal calibration checks shall be documented on the Internal Calibration Test Report.

Internal Multimeter Calibration tests shall be documented on form SHRI-004-WFST-11.

All records related to calibration shall be retained and maintained as per the timeframe of recalibration, recorded on the Calibration Register.

5.0 REFERENCE DOCUMENTATION

ARHS-SMS-07

SHRI-004-REST-03 Calibration Register