

Title: Calibration & Maintenance of Measurement and Recording Equipment		Control Number: SLD 17
Revision: 2.0	Effective Date: Aug. 7, 2009	Section: O&M
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1.0 Purpose

This procedure describes the process for calibration and maintenance of measurement and recording equipment.

2.0 Scope

All measurement and recording equipment requiring maintenance, standardization or calibration, used for measuring or recording data related to drinking water quality, is covered under the scope of this procedure.

3.0 Definitions

- None

4.0 Procedure

- 4.1 The Waterworks Supervisor responsible for Water Quality shall be responsible for the calibration and maintenance of measurement and recording equipment.
- 4.2 pH meters, colorimeters, master thermometer (primary equipment), turbidity meters and fluoride meter (secondary equipment) shall be calibrated or maintained as required by the equipment manufacturer.
- 4.3 The Waterworks Supervisor responsible for Water Quality shall inspect new measuring or recording equipment, and review the manufacturer's manual, to establish calibration / standardization / maintenance requirements. The Water Quality Supervisor shall ensure calibration and maintenance work orders are created as required, as per the **Maintenance SOP**.

Calibration

- 4.4 pH meters, colorimeters, master thermometer (primary equipment), turbidity meters and fluoride meter (secondary equipment) shall be calibrated annually by the manufacturer.
- 4.5 Both the equipment manufacturer and the Waterworks Supervisor responsible for Water Quality shall maintain a calibration schedule.
- 4.6 The equipment manufacturer shall be issued a Purchase Order where applicable as per the Purchasing Manual, and subsequently shall calibrate all applicable equipment.
- 4.7 The equipment manufacturer shall provide calibration certificates for each piece of equipment upon completion of calibration.
- 4.8 The original certificates shall be held by the Water Quality Coordinator and copies shall be held by the Waterworks Supervisor responsible for Water Quality
- 4.9 Each item shall be uniquely identified by a serial number either on the item itself or on its container. Calibration certificates shall cross reference the serial numbers.

Other Maintenance

- 4.10 Operators shall receive on-the-job training for standardization or other maintenance for each type of equipment.
- 4.11 All chlorine residual test kits shall be standardized weekly, as per manufacturer's manuals. Kits shall be stored in a locked cabinet.
- 4.12 pH meters shall be standardized daily prior to use, during the period of use, as per applicable manufacturer manual requirements.
- 4.13 Digital thermometers shall be standardized annually against a calibrated Master thermometer. Thermometers found to be out of range shall be replaced.
- 4.14 Pressure gauges shall be neither standardized nor calibrated as they are discarded when not performing, based on Operator experience. Pressure gauges shall be used for investigative work.

5.0 Associated SOPs

- SOP – Maintenance

6.0 References

- DWQMS Element 17 Calibration of Sampling, Testing and Monitoring Equipment
- Activity Service Levels and Procedure Work Instructions (Hansen)
- Purchasing Manual
- pH Meter Calibration Procedure
- Manufacturer's Manuals

7.0 Records

- Calibration Records
- Work Orders
- Purchase Orders for Calibration Services

8.0 History of Changes

Revision	Date	Description	By
2.0	Jul. 22, 2009	Sections 4.1, 4.2, 4.3, 4.4, 4.5, 4.8, 6.0	E. Wu