



EQUIPMENT CALIBRATION

STANDARD ENVIRONMENTAL OPERATING PROCEDURE

WASTE
REDUCTION
& DISPOSAL
DIVISION

ISO 14001- 4.5.1.1

1.0 PURPOSE AND SCOPE

1.1 This procedure describes a controlled process for calibrating and maintaining environmental measurement and test equipment (EM&TE) that are used specifically for the gathering of data to directly support the permit conditions or other legal and regulatory requirements of the Waste Reduction and Disposal Division's (WRAD) operations.

1.2 Calibration and maintenance of EM&TE is required so that the accuracy and precision of the environmental data collected (and, potentially, the calculations based upon that data) are known and defensible.

1.3 This procedure does not apply to measurement or test devices used for other routine operational or process monitoring or measurement purposes.

2.0 DEFINITIONS

Calibration – the periodic comparison of an instrument or measurement device to a standard of known or greater accuracy, in order to assure the continuity and accuracy of measurements or data.

Calibration Standard – a device or reference used as a means of comparison for quantitatively determining the accuracy, precision, and repeatability of instruments or measurement devices. Calibration standards must have a known and traceable relationship to nationally recognized standards such as those maintained by the National Institute of Standards and Technology (NIST).

3.0 RESPONSIBILITY AND AUTHORITY

3.1 **Project Supervisors** – Supervisors assigned to manage major program elements associated with the monitoring and measurement of environmental data, i.e. groundwater, landfill gas, etc., have primary responsibility for the development of program-specific EM&TE calibration and maintenance records and Standard Operating Procedures (SOPs). Supervisors are also responsible for the implementation of the calibration and maintenance program defined by this procedure, within their assigned programs.

3.2 **Section Managers** – Section Managers are responsible for reviewing and approving applicable section-specific EM&TE calibration and maintenance SOPs. Section Managers are also responsible for ensuring that Project Supervisors review EM&TE calibration and maintenance records within their established programs on a periodic basis (monthly, quarterly, etc.). Note: Periodicity is based upon equipment usage, manufacturer's recommendations and accepted regulatory protocols.

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4.0 PROCEDURE

4.1 Project Supervisors shall prepare a section-specific inventory of EM&TE for which calibration and maintenance under this procedure is required.

4.2 For each equipment item so identified, calibration and maintenance requirements (i.e., calibration/maintenance interval, calibration/maintenance SOP, equipment identifier, and source of calibration or maintenance, if performed externally) shall be developed and documented. Additional requirements shall include the following:

- All EM&TE with expired calibration or maintenance due dates shall be affixed with an “Out of Service” tag pending calibration, maintenance, or withdrawal from inventory,
- The required calibration and/or maintenance intervals shall be established based upon the manufacturer’s recommendations, the level of projected use, the usage environment, and usage history,
- The recall date shall represent the date by which the EM&TE items must be withdrawn from service for calibration and/or routine maintenance,
- Specific calibration and maintenance instructions shall be provided based upon the EM&TE manufacturer’s recommendations. Calibration standards to be used should be identified. If no calibration standard exists, then the basis or justification of the calibration method must be documented,
- Any limitations on use shall be specifically defined.

4.3 The completed EM&TE *Calibration and Maintenance Reports* shall be forwarded to the respective Section Manager or his/her designee for review and approval. All comments shall be resolved to the reviewer’s satisfaction.

4.4 The EM&TE *Calibration and Maintenance Reports* shall be used by the Section Managers to track ongoing EM&TE calibration and maintenance status.

4.5 Failure to complete scheduled calibration or maintenance within the interval defined in the Section’s EM&TE *Calibration and Maintenance Requirements* shall be considered a non-conformance, subject to the corrective and preventive action process defined by, WRAD-SEOP 4.5.2, “Corrective and Preventive Action”.

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5.0 REFERENCES

EMS Manual Section 4.5.1, “Monitoring and Measurement”
Section 4.5.3, “Corrective and Preventive Action”
Section 4.5.4, “Control of Records”
WRAD-SEOP 4.5.3, “Corrective and Preventive Action”
WRAD-SEOP 4.5.4, “Records”

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